

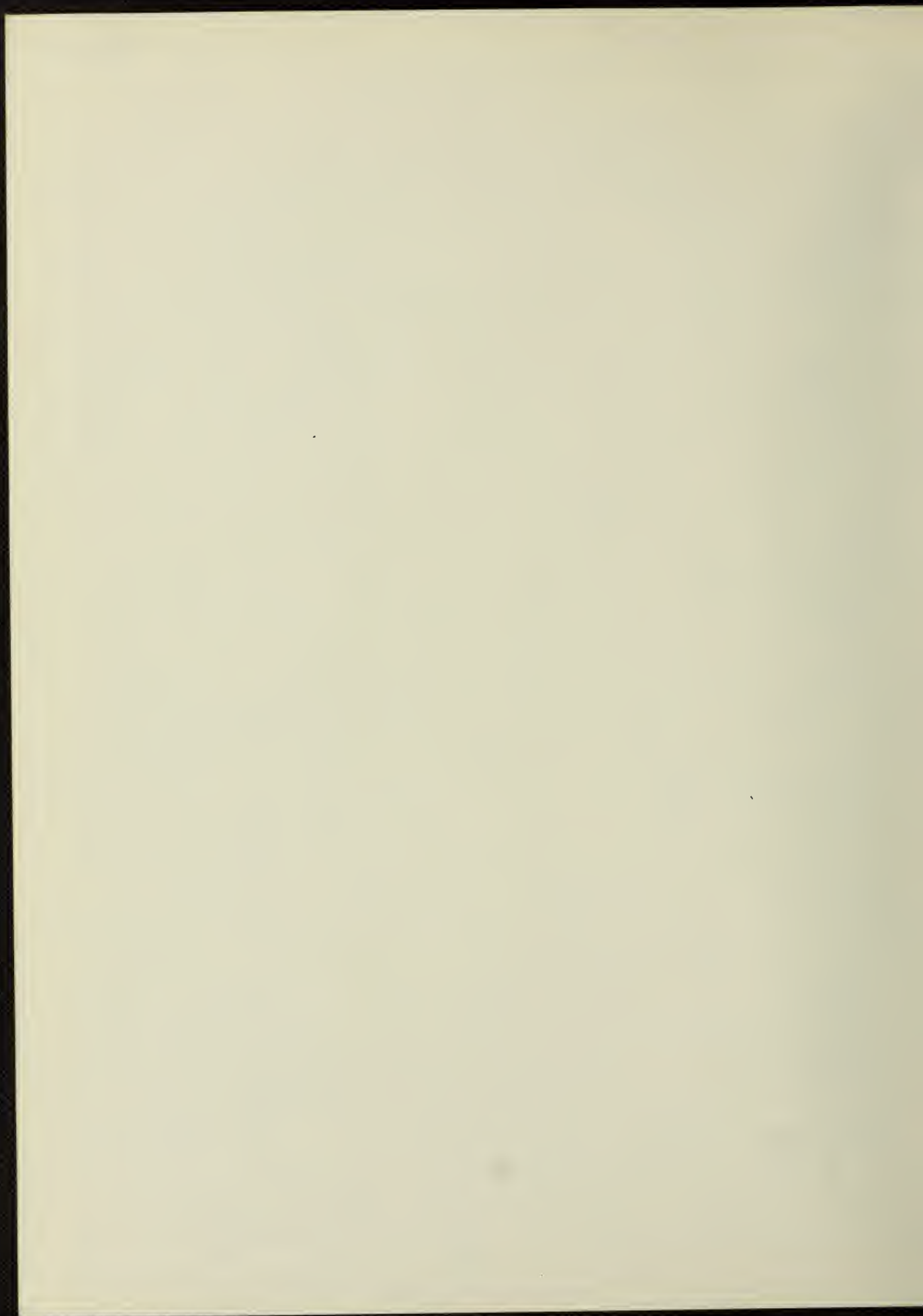


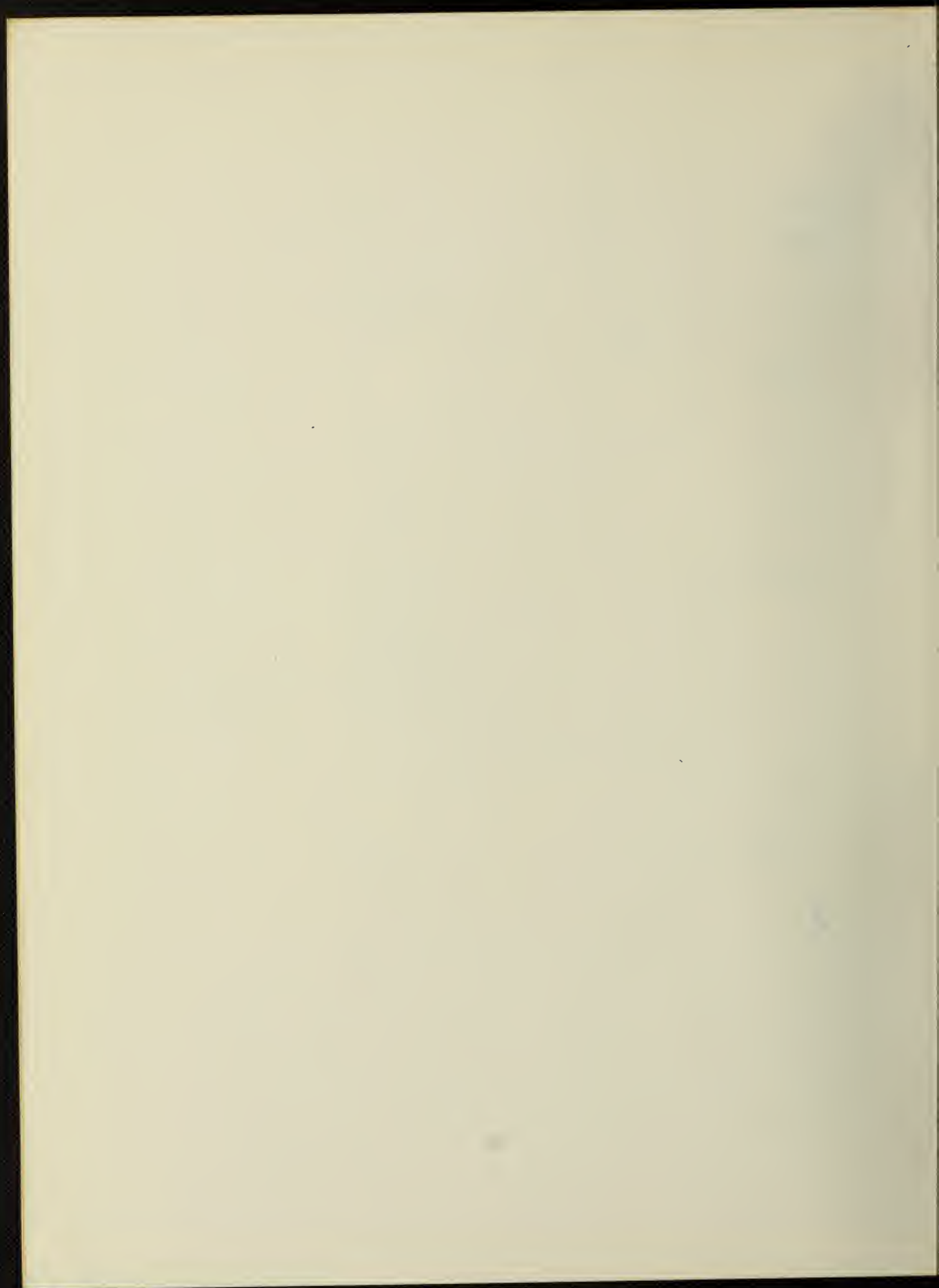
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BUREAU OF RECLAMATION

SAFETY RECORD

This volume is bound without _____

~~Third quarter and "Year" 1961~~ *July - Dec 1961*

which ~~is~~/are unavailable.



FIRST QUARTER 1960

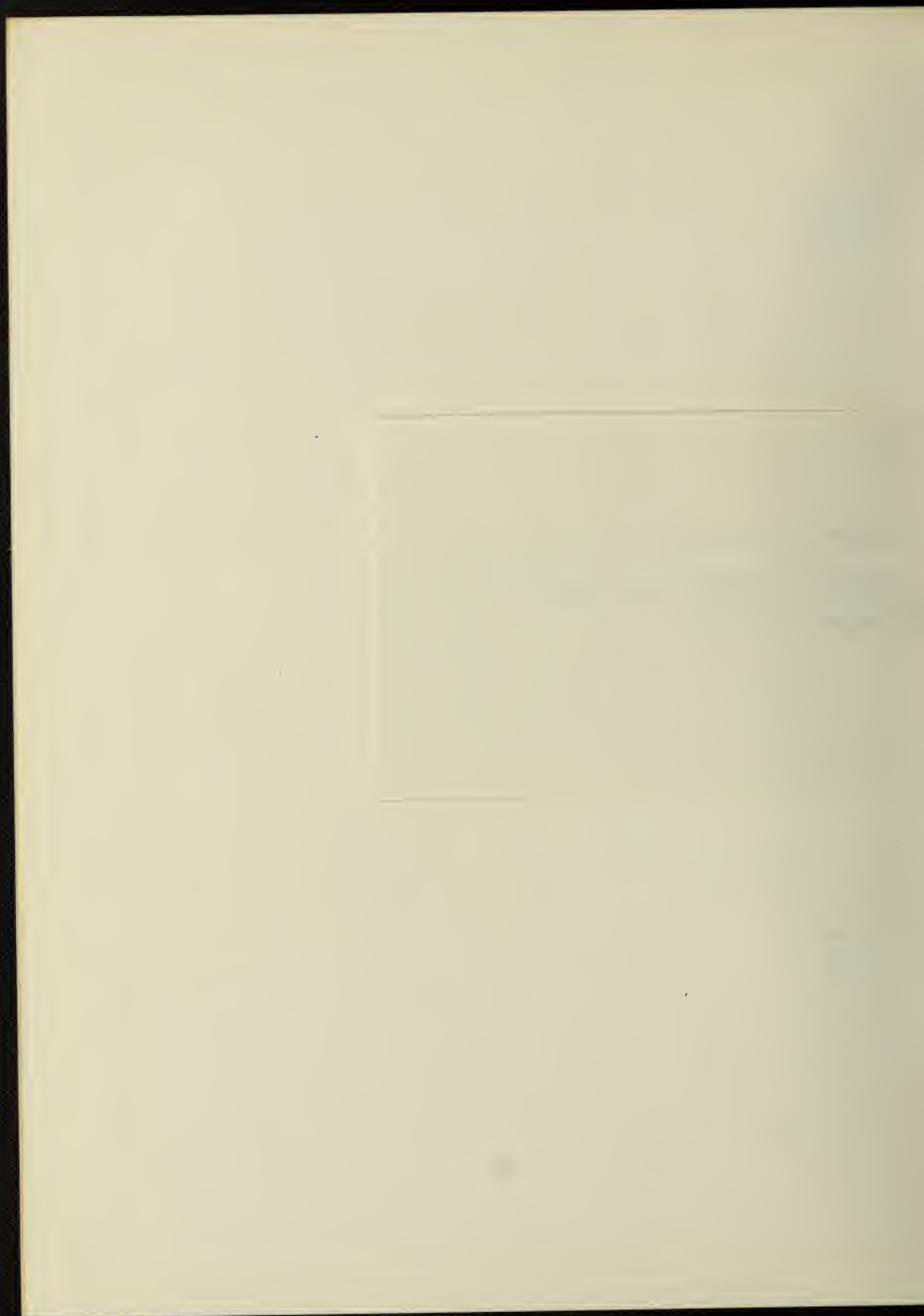
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SAFETY RECORD



FIRST QUARTER 1960

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Front Cover Photo: Cement and pozzolan silos with bucket conveyors at Glen Canyon Dam. Cement truck unloading at the left.
Reclamation photo by: A. E. Turner
P-557-420-04598

SAFETY RECORD is published quarterly by the Safety Branch,
Division of Construction, Bureau of
Reclamation, Denver, Colorado, in the
interest of accident prevention

SAFETY AWARDS FROM NATIONAL SAFETY COUNCIL

The National Safety Council has presented the Award of Honor to Region 7, Bureau of Reclamation, for an outstanding safety record by their employees during 1959. This is the top safety award bestowed by the National Safety Council. The next highest safety award from the National Safety Council, the Award of Merit, was won by Regions 2, 4, and 6, for their safety record among Bureau employees during 1959. Congratulations to each region that won an award based on the improvement in their accident rates over past years under the award criteria set up by the N. S. C.

* * * * *

MAKE COURTESY YOUR CODE OF THE ROAD

SHARE the road by driving in the proper lane
ALLOW ample clearance when passing
YIELD the right of way to other drivers
GIVE proper signals for turns and stops
DIM headlights when meeting or following cars
RESPECT traffic laws, signs, signals, and road marks
ADJUST driving to road, traffic, and weather conditions

* * * * *

YOU MAY LOSE ONLY ONCE

A large part of our annual traffic death rate is due to the human tendency to take chances in traffic. Speeding through unmarked intersections on the chance that another vehicle won't be crossing--passing another vehicle when the view of the road ahead is obscured--overdriving headlights at night--these are examples of chance-taking which continually tempt a driver.

But the worst danger of chance-taking is that it can become a habit. It can become a part of your driving pattern--another one of those built-in accident causes. You can guard against this by forming the habit of never taking chances.

--NSC--

* * * * *

THE BEST SAFETY DEVICE IS YOU

* * * * *

BUREAU OF RECLAMATION

SAFETY PROGRAM GOALS FOR 1960

- I Enlist supervisors' active participation
 - (1) In safety education and training of crew members
- II Hold safety meetings regularly
 - (1) For supervisors
 - (2) For crew members
- III Maintain active safety committees
 - (1) Of supervisors
 - (2) Of workmen
- IV Stress and maintain
 - (1) Advance planning of work by supervisors
 - (2) Standardization of work operations
 - (3) Use of personal protective equipment
- V Conduct periodic safety inspections
 - (1) Physical plant and equipment
 - (2) Work operations
- VI Publish quarterly the "Safety Record" pamphlet
- VII Minimum reduction of 25% in Bureau employees' overall accident rate (9.1 in 1959) to a frequency below 7.0
 - (1) Concentrate on reducing the following types of accidents: handling material or equipment, falls of persons, vehicles, and striking against material. They accounted for 27%, 16.3%, 6.7%, and 5%, respectively, of the total accidents in 1959. These four sources of accidents accounted for 55% of the total lost-time injuries.
 - (2) Pattern the program to reduce the accident rate in Irrigation and Power divisions of the O&M forces. Their type of work activity produced 56% of the total lost-time injuries.
 - (3) Reduction of motor vehicle accidents by 25% (0.33 rate in 1959) to a rate below 0.25 per 100,000 miles of operation.
 - (a) Use of Bureau safe driver award cards
 - (b) Training of drivers

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- (4) Continue water safety program in conjunction with the American Red Cross
 - (a) Use of posters and warning signs to keep people out of canals and related waterways.
 - (b) Use of community meetings to enlist help of schools, service clubs, and parents.

VIII Minimum reduction of 20% in the Contractors' overall accident frequency rate (31.0 in 1959) to around 25

- (1) Canal work experienced 14% of the total accidents; concrete dam construction had 6%; earth dam construction sustained 37%; tunnel operations had 18%; transmission lines had 5%. Miscellaneous work accounted for 20%.
- (2) Concentrate on reducing the following four types of accidents: handling material or equipment, falling objects, falls of persons, and vehicles. They produced 21%, 19%, 17%, and 10%, respectively, of the total lost-time injuries.
- (3) Encourage contractors to hold "tool-box type" safety meetings for all workmen.

* * * * *

Definition of an accident: "An event frequently descended from a long line of advice not listened to."

* * * * *

The circus was in town and one of the natives stood thoughtfully looking at the camels. Finally he picked up a single straw and carefully placed it on the camel's back. Then he stepped back and waited. Nothing happened.

"Wrong straw," he muttered and walked away.

* * * * *

SAFETY BENEFITS EVERYBODY

* * * * *

HOW ACCIDENTS ARE CAUSED - TUNNEL OPERATIONS

Employer: Contractor

Activity: Trains hauling equipment in tunnel under construction.

Equipment: Two diesel locomotives with cement-agitator cars

Accident Situation and Occurrence: Two diesel locomotives were hauling separate trains of cement-agitator cars into the heading of the tunnel for grouting operations. They were stopped by work along the track and then proceeded forward again. A laborer was working on a drain ditch along the side of the railroad track in the tunnel. After the two separate trains passed this area the laborer was found fatally injured along the side of the track apparently having been struck by the second locomotive. There were no eye witnesses to this accident.

Cause Determination: Based upon the investigation it appears that the cause was one or a combination of the following:

1. The deceased did not see or hear the second engine and stepped out in front of it.
2. The deceased may have slipped and fallen as he attempted to cross between the two locomotives.
3. The first and second locomotive operators did not sound a warning when they started forward after being stopped.
4. The brakemen were not riding on the front end of each train.

Recommendations: The following recommendations will help prevent similar accidents of this type:

1. Brakeman to ride front end of any moving equipment.
2. Locomotive bells will be sounded in passing congested work areas.
3. Adequate lights to be used on equipment.

* * * * *

REMEMBER - TAKE TIME TO DO THE JOB THE SAFE WAY

* * * * *

ACCIDENT PREVENTION

Accident prevention like defensive driving requires that we keep alert to all conditions and take such actions as warranted to prevent or reduce the possibility of becoming involved in an accident-producing situation. This type of preventive program requires that we first recognize the problem, then take action. Judging by personal contact and corrective measures taken after accidents occur, it would appear the majority of us recognize the problem. No doubt there are many varied reasons why action is not always taken before the accident occurs. However, knowledge of a problem is of little preventive value without action to correct the condition or situation.

We may be prone to think of the many chances which are taken daily without resulting in an accident, thereby indicating we can take the risk. However, if we only knew how many accidents each of us have prevented through the years by preventive measures, the words "accident prevention" would take on new meaning. There is little doubt but what some of us would not be around today except for preventive actions taken by our supervisors and fellow workmen. Let us continue to place our own personal safety and the safety of our fellow man at the top of our list.

--Region 6 Safety News--

* * * * *

SAFETY BELTS AND SAFETY LINES

The use of safety belts and safety lines is a requirement in many operations on heavy construction work. One very important place is in connection with excavation work on steep canyon walls. Along with keeping the equipment in first class condition, it is equally important that the employees know how to use it safely under all conditions. In such operations there generally is no second chance through improper use or faulty equipment.

As a rule only experienced men are employed to go over the side. However, it is the duty of the foreman to instruct and make sure that the worker knows the proper hitch for tying himself off and how to move safely up and down the life line.

It is good practice to tie a knot above the end of the safety or life line. If for any reason the "pigtail" knot should continue to slip, the worker's descent would be stopped before reaching the end of the safety line. This should not happen if the "pigtail" knot is tied properly and the worker does not continue to release the pressure on the knot. In a recent case, a worker received fatal injuries when he apparently froze and continued to release the pressure on the "pigtail" knot. This allowed him to free fall off the end of the safety line. A knot above the end of the safety line might have saved the life of this workman.

* * * * *

HOW ACCIDENTS ARE CAUSED - FLOATING SCAFFOLD

Employer: Contractor

Activity: Lowering floating scaffold suspended in vertical tunnel shaft.

Equipment: Floating scaffold, with two hoists mounted one on each side supported by two-part 1/2-inch cables.

Accident Situation and Occurrence: Two employees were engaged in cleaning up holes in a vertical concrete shaft preparatory to grouting operations. They started to lower the scaffold they were working from. Movement of the scaffold was by hoists mounted on each side of the floating scaffold. Each hoist had a ratchet on it, a hand brake, and the (air wrench) motor. Apparently the one employee lifted the hoist, locked out of the ratchet, turned on the air and did not use the hand brake. This allowed his side of the scaffold to drop suddenly and he slipped off and fell 70 feet to a fixed scaffold below causing fatal injuries. His coworker who was operating the hoist on the other side of the scaffold grabbed a cable on his hoist and did not fall. The men were not wearing safety belts.

Cause Determination: The cause of the accident was determined to be the following:

1. Human failure in the operation of the equipment.
2. Not providing or insisting the men wear safety belts when working on the floating scaffold.
3. The hoists were unsafe for this type of operation, due to the method used to control them.

Recommendations: The recommendations placed into effect were:

1. Floating scaffolds have been replaced with stationary fixed scaffolds installed at various elevations in the vertical shaft.
2. Men should always wear safety belts properly tied off when there is any chance of falls.

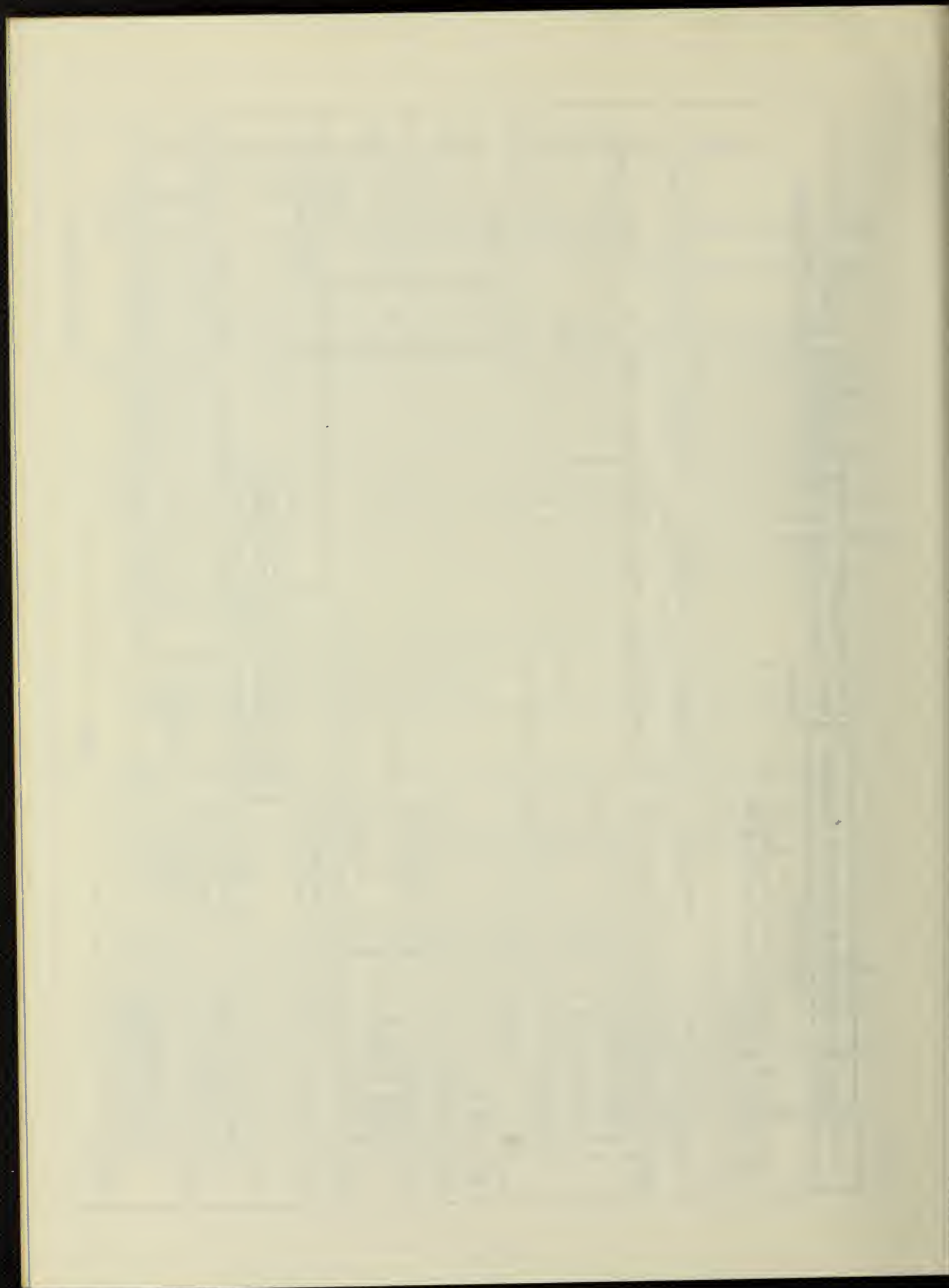
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USE PROPER FIRE EXTINGUISHERS

Contrary to tradition, water is not the cure-all for fire protection. The importance of having the proper extinguishers for the proper locations is illustrated by the following occurrence. Asphalt kettle heaters, being used on a construction job, were left too long without supervision, overheated, and the asphalt burst into flame. Workmen close by turned a water hose on the fire, causing the asphalt fire to spread over the floor, making matters worse. The fire department was called, and extinguished the fire. Had a portable dry-chemical-type extinguisher been on hand, the damage would not have been so great.

* * * * *

QUARTERLY AND CUMULATIVE REPORT OF ACCIDENTS				REPORT FOR THE QUARTER ENDING March 31, 1960				U.S. DEPARTMENT OF THE INTERIOR BUREAU OF OFFICE Bureau of Reclamation					
INSTRUCTIONS				REMARKS:									
USE THIS FORM TO CONSOLIDATE ALL BUREAU ACCIDENTS REPORTED IN COMPLIANCE WITH 365 DM 4. REFER TO THE REVERSE SIDE FOR DETAILED INSTRUCTIONS.													
PERIOD REPORTED				FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL TO DATE	
ITEM	INJURY OR DAMAGE INCURRED FROM ACCIDENTS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS
1.	WORK INJURIES AND LOSS AV. DISABLING X \$ 442	47	\$20,774							47	\$20,774		
	NON DISABLING X \$ 9	136	1,224							136	1,224		
	FATALITIES X \$ 42,975	1	42,975							1	42,975		
	SUB TOTAL	184	64,973							184	64,973		
2.	FIRES	5	1,465							5	1,465		
3.	TORT CLAIMS	5	2,120.85							5	2,120.85		
4.	MOTOR VEHICLES	26	11,429.22							26	11,429.22		
5.	PROPERTY DAMAGE NOT INCLUDED IN ITEMS 2, 3, & 4	3	456.16							3	456.16		
6.	TOTAL		\$80,444.23								\$80,444.23		
MOTOR VEHICLE ACCIDENT EXPERIENCE													
7.	TOTAL MILES DRIVEN USING GOVT. OWNED OR LEASED MOTOR VEHICLES		5,587,581										5,587,581
8.	MOTOR VEHICLE ACCIDENT RATE: NO. OF REPORTABLE MOTOR VEHICLE ACCIDENTS PER 100,000 MILES DRIVEN	26	0.465										0.465
SIGNATURE				TITLE				DATE OF SUBMISSION					



LOST TIME ACCIDENT SUMMARY

GOVERNMENT FORCES
January through March 1960

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																			
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST-CHEMICALS - GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JUMPING TO OR FROM PLACES STRONG AGAINST MATERIAL	FLYING PARTICLES	HAND TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED	TOTAL
						THIS YEAR TO DATE	LAST YEAR (1959)	THIS YEAR TO DATE	LAST YEAR (1959)																				
Washington Office	219	110,376				0.0	0.0	0	0																				
Denver Office and Laboratories	1,219	614,568	1		1	1.6	2.4	2	41																			1	
Alaska District	30	14,748				0.0	38.8	0	388																				
REGION 1																													
Boise Regional Office	225	106,550				0.0	6.8	0	9																				
Central Snake Projects Office	48	22,979	1		21	42.5	22.4	914	235																		1		
Chief Joseph Dam Project	20	8,889				0.0	0.0	0	0																				
Columbia Basin Project Office	910	458,664	6		30	13.1	13.2	65	134																		6		
Crooked River Project	32	15,722				0.0	16.1	0	468																				
Hungry Horse Project Office	60	31,194				0.0	12.8	0	24																				
Minidoka Project	203	83,791	2		3	23.9	12.6	36	60																		2		
Rogue River Basin Project Office	82	41,682	1		2	24.0	21.8	48	54																		1		
Yakima Project	102	43,175	3		186	72.8	15.4	4,517	149																		1		
Totals and Averages	1,682	810,646	13		242	16.0	13.2	298	111																				
REGION 2																													
Sacramento Regional Office	440	222,248				0.0	3.3	0	25																				
Folsom	83	42,711				0.0	0.0	0	0																				
Fresno	147	74,064	1		38	13.5	16.5	513	555																		1		
Shasta Dam	123	62,888	1		4	15.9	3.7	64	96																		1		
Tracy	185	94,388				0.0	0.0	0	0																				
El Dorado Project Office	49	25,712	2	1	6,030	77.8	--	234,521	--																		2		
Klamath Project	35	17,824				0.0	0.0	0	0																				
Lahontan Basin Office	41	19,920				0.0	48.9	0	195																				
Lindsey Construction Office	40	20,758				0.0	0.0	0	0																				
Sacramento Valley Canals Office	12	6,146				0.0	0.0	0	0																				
Trinity River Project Office	245	123,800	2		41	16.1	14.2	331	264																		2		
Ventura River Project	6	3,304				0.0	8.3	0	17																				
Totals and Averages	1,406	713,763	6	1	6,113	8.4	6.4	8,564	123																				
REGION 3																													
Boulder Regional Office	123	62,316				0.0	0.0	0	0																				
Boulder Canyon Project	157	79,481	6		308	75.5	21.7	3,875	1,184																		6		
Colorado River FWEIS Project	140	67,896	3		13	44.2	35.7	191	727																		3		
Parker-Davis Project	262	138,452	2		30	14.4	15.4	217	10,516																		2		
Yuma Projects Office	112	49,123	1		10	20.3	32.1	203	70																		1		
Totals and Averages	794	397,290	12		361	30.2	20.1	909	4,085																				
REGION 4																													
Salt Lake Regional Office	232	112,994				0.0	0.0	0	0																				
Central Utah Projects Office	93	45,763				0.0	0.0	0	0																				
Flaming Gorge Unit, CRSP	95	46,058				0.0	0.0	0	0																				
Glen Canyon Unit, CRSP	198	102,712	2		14	19.5	4.6	136	102																		2		
Navajo Unit, CRSP	50	32,468				0.0	8.2	0	31																				
Transmission System Office, CRSP	12	6,488				0.0	44.4	0	178																				
Durango Office	49	23,677				0.0	23.1	0	150																				
Grand Junction Office	151	78,056				0.0	17.7	0	289																				
Logan Area Office	11	5,752				0.0	0.0	0	0																				
Upper Green River Office	68	38,096				0.0	15.3	0	46																				
Weber Basin Project	139	78,640	1		13	12.7	6.9	165	168																		1		
Totals and Averages	1,098	571,704	3		27	5.2	6.8	47	92																				
REGION 5																													
Amarillo Regional Office	183	85,938				0.0	0.0	0	0																				
Albuquerque Project Office	356	160,708	6		52	37.3	32.0	323	798																		6		
Lower Rio Grande Rehab. Project	42	21,818				0.0	0.0	0	0																				
Rio Grande Project	257	136,128	3		21	22.0	17.0	154	124																		3		
San Angelo Project	39	18,888				0.0	60.5	0	696																				
San Luis Valley Project	3	1,257				0.0	0.0	0	0																				
Washita Basin Project	93	44,923				0.0	9.0	0	327																				
Totals and Averages	973	469,666	9		73	19.2	18.4	155	368																				
REGION 6																													
Billings Regional Office	165	79,520				0.0	0.0	0	0																				
Rizhorn Projects Office	15	7,405				0.0	18.3	0	284																				
Canyon Ferry Project Office	20	10,422				0.0	0.0	0	0																				
East Bench Project Office	8	3,520				0.0	--	0	--																				
Fort Peck Project	40	19,600				0.0	13.4	0	94																				
Helena Valley Project Office	33	16,030				0.0	11.9	0	191																				
Lower Missouri Power Project Office	9	4,368				0.0	--	0	--																				
Missouri-Oahu Projects Office	184	91,409	1		1	10.9	5.6	11	39																		1		
Missouri-Souris Projects Office	173	83,518				0.0	2.6	0	21																				
Owl Creek Project Office	16	6,698				0.0	0.0	0	0																				
Power System Operations Office	36	20,160				0.0	--	0	--																				
Riverton Project	27	12,765				0.0	0.0	0	0																				
Upper Missouri Projects Office	69	30,888	1		8	32.4	9.9	239	178																		1		
Totals and Averages	795	386,303	2		9	5.2	5.7	23	71																				
REGION 7																													
Denver Regional Office	159	77,760				0.0	2.8	0	407																				
Farwell Project	89	47,110				0.0	0.0	0	0																				
Kansas River Projects	307	154,960				0.0	4.7	0	25																				
Lower Platte River Office	35	16,380				0.0	0.0	0	0																				
Niobrara River Office	9	4,154				0.0	11.8	0	35																				
North Platte River Projects	322	154,880				0.0	3.2	0	46																				
South Platte River Projects	167	84,352	2		26	23.7	5.5	308	67																		2		
Upper Arkansas River Office	8	3,239				0.0	0.0	0	0																				
Totals and Averages	1,096	542,835	2		26	3.7	2.9	48	95																				

**FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

LOST TIME ACCIDENT SUMMARY

CONTRACTORS FORCES
January through March 1960

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																						
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE CONTAINMENT EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST-CHEMICALS - GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JUMPS TO OR FROM PLACES UNDESIGNATED	STRIKES AGAINST MATERIAL	FLYING PARTICLES	HANG TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED	TOTAL		
						THIS YEAR TO DATE	LAST YEAR (1959)	THIS YEAR TO DATE	LAST YEAR (1959)																						1	2
REGION 1																																
Chief Joseph Dam Project	3	480				0.0	0.0	0	0																							
Columbia Basin Project Office	121	49,967	3		32	60.0	34.0	640	563				1																			
Crooked River Project	77	22,359	1		1	44.7	104.7	45	29,697																							
Windoka River Basin Project Office	10	4,676				0.0	24.0	0	1,746																							
Rogue River Basin Project Office	66	29,079	2		45	68.8	59.8	1,547	17,685																							
Yakima Project	28	7,820				0.0	0.0	0	0																							
Totals and Averages	305	114,381	6		78	52.4	57.2	682	12,492																							
REGION 2																																
Sacramento Regional Office	10	3,645				0.0	0.0	0	0																							
El Dorado Project Office	19	6,211	1		10	161.0	—	1,610	—																							
Lindsay Construction Office	26	3,023				0.0	0.0	0	0																							
Sacramento Valley Canals Office	44	12,911				0.0	45.0	0	809																							
Trinity River Project Office	520	301,508	12	2	12,289	39.8	36.8	40,758	5,247	1																						
Ventura River Project	3	1,184				0.0	19.4	0	29,233																							
Totals and Averages	622	328,482	13	2	12,299	39.6	35.2	37,442	6,792																							
REGION 3																																
Boulder Regional Office	11	2,338				0.0	0.0	0	0																							
Colorado River FW&LS Project	12	636				0.0	135.8	0	814,996																							
Parker-Davis Project	5	1,158				0.0	0.0	0	0																							
Yuma Projects Office	62	28,699				0.0	35.4	0	71																							
Totals and Averages	90	32,831				0.0	37.8	0	113,554																							
REGION 4																																
Central Utah Projects Office	22	12,354				0.0	14.4	0	202																							
Flaming Gorge Unit, CRSP	206	110,207	4	2	12,030	36.3	14.6	109,198	5,606																							
Glen Canyon Unit, CRSP	718	308,190	8	1	6,207	26.0	12.6	20,140	5,671																							
Navajo Unit, CRSP	408	246,375	5	1	6,081	20.3	24.3	24,682	5,371																							
Grand Junction Office	105	46,925	2		122	42.6	54.9	2,600	15,612																							
Weber Basin Project	46	17,674				0.0	20.4	0	25,384																							
Totals and Averages	1,505	741,725	19	4	24,440	25.6	22.5	32,950	7,792																							
REGION 5																																
Amarillo Regional Office	1	255				0.0	0.0	0	0																							
Albuquerque Project Office	38	18,102				0.0	7.8	0	2,3																							
Lower Rio Grande Project	29	12,487	1		3	80.1	—	240	—																							
Washita Basin Project	332	113,553	1		42	8.8	20.1	370	293																							

* FATALITIES INCLUDED IN TOTAL DISABLING



"CHIPS" BEAVER,
The DAM BUILDER sez:

ARE YOU DOING ALL
YOU CAN TO
PREVENT
ACCIDENTS?

IT'S  TO CLEAN 
LIKE... UH - NOW, CITIZEN!



U.S. BUREAU OF RECLAMATION

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

SAFETY RECORD



SECOND QUARTER 1960



COMMISSIONER'S OFFICE
DENVER, COLORADO



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Front Cover Photo: Flaming Gorge Dam. Warning sign
erected by contractor at entrances to
blasting area. Reclamation photo
by: F. B. Slote P-591-421-2289

SAFETY RECORD is published quarterly by the Safety Branch,
Division of Construction, Bureau of
Reclamation, Denver, Colorado, in the
interest of accident prevention

BUREAU RECEIVES FLEET SAFETY AWARD

The Department of the Interior annual Fleet Safety Award certificate was won by the Bureau of Reclamation in recognition of their outstanding safety record during 1959.

The Bureau, with a fleet of 3,230 vehicles, had an accident frequency rate for 1959 of 0.33 per 100,000 miles. The total mileage traveled was 28,003,984 with a total number of 93 accidents. The Bureau's rate compares favorably with the Departmental average of 0.50 and with the frequency rates of other Federal agencies.

Congratulations are due to all the Bureau drivers who made this fine record possible.

* * * * *

ACCIDENT RATE FOR FIRST 6 MONTHS 1960

The frequency rate of accidents for Bureau employees was 10.6 for the first 6-month period of 1960. This shows an increase of 16.5 percent over the frequency rate for 1959. One of the objectives for this year was to reduce our rate to around 7.0. To accomplish this will now require that the present rate of accidents be reduced by 34 percent during the remaining months of the year. "Handling material or equipment" type of accident still continues to be our greatest source (34.6 percent) of lost-time injuries. Falls of persons followed by motor vehicle accidents are the next greatest sources.

From an overall standpoint, it is believed that a better and greater use of "toolbox" safety meetings will help to reduce materially the number of our accidents. In addition to the regular safety meeting, the "toolbox" type provides a constant reminder of the best job methods which include the safety of the workmen. It is the logical place for the supervisor to issue work instructions to his crew at the job site. Let's make sure that we are doing all we can to prevent accidents by making good use of "toolbox" meetings on all Bureau operations. It is a tried method that is securing results wherever it is applied to the fullest extent.

* * * * *

There can be no neutrals in the war
on accidents. Either you help with the solution
or you become part of the problem.

* * * * *

POWER SAFETY BULLETIN

June 30, 1960

A fatal accident causing the death of a power lineman employee of the Bureau has recently occurred. While this accident has been referred to as a "freak accident," it is evident from the investigation that several important safety rules were not followed. A brief description of the accident is as follows:

A fairly short wooden pole, carrying moderate voltage lines, was required to be moved. The pole was tied four ways by conductors and guy attached to two sets of crossarms at right angles to each other. Circuits were dead when cutover was being made. Six conductors went to the north and south, two to the east, and a down guy to the west. Without otherwise securing the pole, the Bureau lineman climbed the pole, buckled his safety strap at the top of the pole above the crossarms and proceeded to cut or untie the lines. After completing this work, and before unbuckling his safety belt, he started to move around into position to descend when the pole broke just below ground level and toppled toward the roadway. The pole fell with the lineman still strapped to it and holding his body tightly against the pole. The pole fell in such a direction that he was on the underside. The crossarms struck the ground before his body and thereby prevented the pole from crushing him. However, the shock of striking the ground snapped his head backward and the back of his head struck the hard roadway surface, causing a basal skull fracture, resulting in instant death.

The pole had snapped off just below the ground surface. It apparently was sound from visual inspection above ground, but actually was in a seriously rotted condition below ground. Proper precautions, such as piking, roping, or otherwise supporting the pole before climbing and cutting the wires were not taken. The victim was not wearing a hard hat at the time of the accident.

While this accident might be classified as a "freak accident," it was nevertheless a preventable one if the safety rules, as laid down by the Power System Safety Handbook, had been followed. Under Rule 2.1(b), it is stated that "The Foreman * * * shall be held responsible for the proper use and maintenance of all protective devices." In the case of this accident, it is considered that one or more means, such as piking, roping, etc., should have been taken as a normal precaution for protecting against the falling of the pole, before the lineman climbed it and removed the lines. Also, while there is no assurance that the wearing of a hard hat would have completely protected the man, it is highly possible that this would have afforded considerable protection.

* * * * *

MOUTH-TO-MOUTH METHOD OF RESUSCITATION

- a. The victim should be laid on his back with his head placed as far back as possible so that his neck is extended. If there is a slope, placing the victim's body with the head slightly downhill is advisable.
- b. The operator uses one hand to elevate the victim's jaw so that it juts out by inserting a thumb between the victim's teeth, grasping the lower jaw at mid-line and lifting it forcefully upward so that the lower teeth are higher than the upper teeth. He then closes the victim's nose with his other hand. When it is difficult to insert the thumb into a victim's mouth, or when the thumb almost fills the mouth (such as on a child,) the operator lifts the jaw forcefully upward with both hands, places his fingers on both sides of the jaw and closes the victim's nose by pinching the nostrils between the thumbs.
- c. After taking a deep breath, the operator places his mouth completely over the victim's mouth with airtight contact. The victim's mouth should not be held open too wide as it must be totally covered by the operator's lips. (On an infant, the operator's mouth should be placed over the child's mouth and nose.)
- d. The operator then breathes or blows into the victim's mouth, forcefully for adults and gently for children. The victim's chest should be watched and as soon as it rises, the blowing should be stopped and the operator's mouth quickly removed from the mouth of the victim, allowing him to exhale passively.
- e. The jaw must be held in an elevated position on both the inspiration and expiration phases.
- f. If the chest does not rise, the position of the head and jaw should be improved and the blowing done more forcefully. If the victim's lungs are still not ventilated, his airway may be obstructed. He should be placed in a face-down, head-down position, his tongue pulled forward, and patted firmly on the back to dislodge any foreign object.
- g. The cycle of inflation and exhalation should be repeated 12 times per minute for adults and 20 times per minute for infants and small children.
- h. If the victim's stomach swells during resuscitation, air may be entering it. This may be corrected by the operator gently pressing on the victim's stomach during exhalation.

--Edison Electric Institute--

* * * * *

HOW ACCIDENTS ARE CAUSED - LOADING OPERATIONS

Employer: Contractor

Activity: Excavating rock from foundation area with power shovel and tractor dozer

Equipment: Tractor dozer and power shovel

Accident Situation and Occurrence: Employee was operating a dozer, "tending" a power shovel in a foundation excavation area. His work consisted of pushing rock from a slope that had been recently blasted and piling it within reach of the shovel operator. He also kept the pit floor clean for access of the trucks which were hauling from the shovel. Just prior to the accident the shovel operator attempted to move the shovel forward but in order to do so had to move back to free the tracks of mud. In moving, the shovel started to swing to the right and the dipper bucket swung in an arc striking the dozer operator who was moving in beside the shovel from the blind side. He received fatal injuries.

Cause Determination: Contributing factors were:

- (1) The shovel operator failed to keep his machine under control by allowing the shovel to swing while backing. He assumed the dozer had left the pit.
- (2) The victim should have made the operator aware of the fact that he was moving in beside the shovel.

Recommendations: To help prevent similar accidents of this type:

- (1) Operators of power equipment such as draglines or shovels should always face the machine in the direction they are about to travel or have someone direct their movements. They should never back blind.
- (2) Operators of dozers or other equipment such as trucks should never approach a power shovel without first attracting the operator's attention and getting some signal of approval. Each have a mutual responsibility in this regard.

* * * * *

SAFETY ENGINEERS ATTEND BUREAU OF MINES COURSE

The U. S. Bureau of Mines conducted a training course on the Storage, Use, and Handling of Explosives at Bruceton, Pennsylvania, the week of May 2-6, 1960. Reclamation safety personnel in attendance at the training sessions were Messrs. R. A. Breckenridge, R. W. Cary, and C. A. Erickson.

* * * * *

FALLS HAVE MANY CAUSES

On Bureau operations falls occur in many places and from many causes. Last year falls accounted for 16% of the lost-time injuries to Bureau employees and were the second greatest source of accident injuries. On contract work, falls of persons - 17% - were the third largest source of injury-producing accidents.

Conditions and practices causing most falls will include the following:

Physical Conditions

- Floors - uneven, in poor condition, excessively smooth
- Stairs - worn, broken or irregular, or curving treads
- Floor openings - unguarded or loose covering
- Scaffolds and platforms - loose or defective planks
- Lack of good lighting
- Rough terrain

Personal Causes

- Carrying too heavy or bulky loads
- Failure to use safety belts
- Haste, inattention, chance-taking, horseplay
- Physical impairment

Poor Housekeeping

- Grease, oil, or water on floors or steps
- Loose or fixed objects on floors or steps
- Loose material that may shift underfoot
- Icy walks and steps

Work above the ground level is not without hazards, even when normal precautions are taken, but the risk can be minimized when ladders are the right type for the job, well maintained and properly used. Scaffolds are temporary structures and sometimes leave something to be desired in materials and workmanship; particularly for small jobs. When used frequently, portable sectional metal scaffolds have proven their worth.

There are several types of flooring with good anticlip qualities. They are satisfactory for platforms, walkways, ramps, and around machinery.

For a sure footing, good footwear is important. Soles and heels of rubber or neoprene, with cord or granules of cork incorporated, will grip most surfaces.

Good housekeeping is still one of the most important preventives of falls. This is a constant process that must be taken care of in offices, shops, and on construction jobs. Where floors must be waxed for protection and appearance, there are coatings available with high resistance to slipping.

* * * * *

HOW ACCIDENTS ARE CAUSED - SALVAGE OPERATIONS

Employer: Contractor

Activity: Removing section of bridge decking from river

Equipment: Tractor with dozer and winch, boat with motor

Accident Situation and Occurrence: A crew of men were removing a section of bridge decking (60 ft by 24 ft) from a gravel bar in the river. The section had floated downstream after an ice floe had destroyed portions of a highway bridge. The section was being removed to prevent it from plugging the diversion tunnel intake at high water stage. It was decided to tie the winch cable from the tractor to the downstream end of the bridge section and tow it ashore. The crew were riding the section as it was being pulled by the tractor. The section struck a submerged rock and the jar knocked the foreman off; he fell into the swift water and was drowned. The others managed to hold onto the guard railing. The boat was of no value in rescuing the victim since the motor had a broken shear pin and there were no oars. Ring-type life preservers were not in use at the site.

Cause Determination: The operations engaged in were very hazardous and the safety equipment at the site was not used. The supervisor should have obtained vest-type life preservers for his crew. The boat needed oars and the motor repaired before the job was started. The men should not have been allowed to ride the bridge section as a raft. In general, the operations showed lack of good supervision for safe accomplishment.

Recommendations: Crews working in or near water on unusual operations should wear vest-type life preservers. The work should be planned with the safety of the men paramount, having the personnel properly equipped and stationed for rescue in case of accident. Adequate safety measures should be strictly enforced at all times.

* * * * *

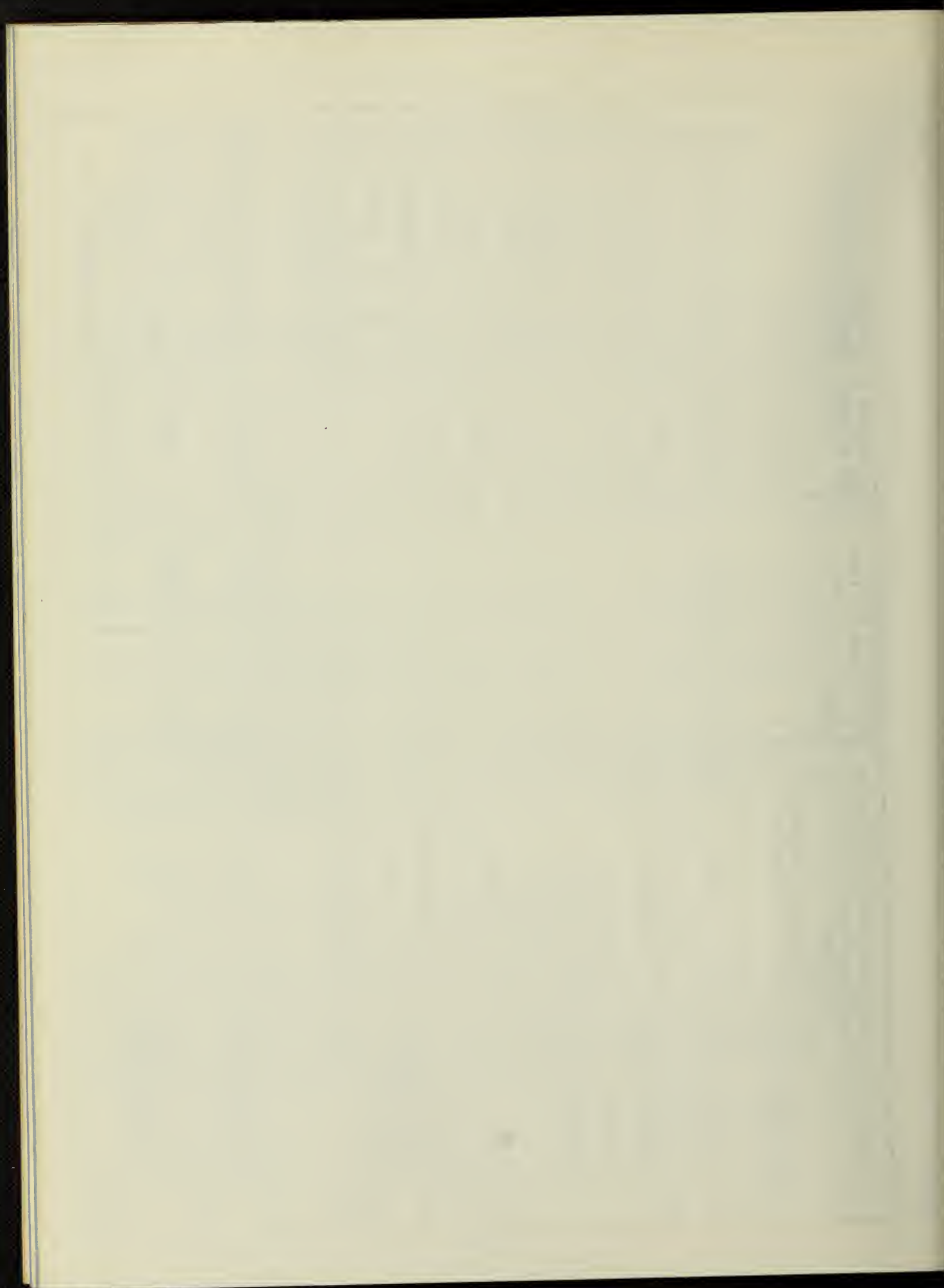
LEAVE YOUR PROBLEMS AT HOME

On the road, driving is your only problem. It better be. Today's traffic often demands quick decisions, fast action. What you do must be right - your safety depends on it. And unless driving has your complete attention, you could come up with the wrong answers. Last year 37,000 people died in traffic accidents - 40 times that many suffered painful injuries. No driver can afford to overlook the consequences of inattention at the wheel. Keep your mind on your driving - keep on living.

--National Safety Council--

* * * * *

QUARTERLY AND CUMULATIVE REPORT OF ACCIDENTS				REPORT FOR THE QUARTER ENDING June 30, 1960		U.S. DEPARTMENT OF THE INTERIOR BUREAU OF OFFICE BUREAU OF RECLAMATION					
INSTRUCTIONS				REMARKS:							
USE THIS FORM TO CONSOLIDATE ALL BUREAU ACCIDENTS REPORTED IN COMPLIANCE WITH 365 DM 4. REFER TO THE REVERSE SIDE FOR DETAILED INSTRUCTIONS.											
PERIOD REPORTED		FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL TO DATE	
ITEM	INJURY OR DAMAGE INCURRED FROM ACCIDENTS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS
1.	WORK INJURIES AND LOSS AV. DISABLING X \$ 4412	47	\$20,774	49	\$21,658			96	\$42,432		
	NON DISABLING X \$ 9	136	1,224	135	1,215			271	2,439		
	FATALITIES X \$ 42,975	1	42,975	4	171,900			5	214,875		
	SUB TOTAL	184	64,973	188	194,773			372	259,746		
2.	FIRES	5	1,465	1	525			6	1,990		
3.	TORT CLAIMS	5	2,120.85	2	3,692.51			7	5,813.36		
4.	MOTOR VEHICLES	26	11,429.22	19	13,161.11			45	24,590.33		
5.	PROPERTY DAMAGE NOT INCLUDED IN ITEMS 2, 3, & 4	3	456.16	1	50.			4	506.16		
6.	TOTAL	233	\$80,444.23	211	\$212,201.62			434	\$292,645.85		
MOTOR VEHICLE ACCIDENT EXPERIENCE											
TOTAL MILES DRIVEN USING GOVT. OWNED OR LEASED MOTOR VEHICLES		FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL OF MILES DRIVEN	
7.		5,587,581		7,900,673						13,488,254	
MOTOR VEHICLE ACCIDENT RATE: NO. OF REPORTABLE MOTOR VEHICLE ACCIDENTS PER 100,000 MILES DRIVEN		NO.		FREQUENCY RATE		NO.		FREQUENCY RATE		CUMULATIVE TOTAL FREQUENCY RATE	
8.		26		0.46		19		0.24		0.33	
SIGNATURE		TITLE				DATE OF SUBMISSION					



LOST TIME ACCIDENT SUMMARY

GOVERNMENT FORCES

January through June 1960

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
						ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST-CHEMICALS-GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JUMPING TO OR FROM PLACES	STRIKING AGAINST MATERIAL	FLYING PARTICLES	HAND TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED	TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			THIS YEAR TO DATE	LAST YEAR (1959)		THIS YEAR TO DATE	LAST YEAR (1959)	1	2																						3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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*FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

LOST TIME ACCIDENT SUMMARY

CONTRACTORS FORCES

January through June, 1960

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																				
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	TOTAL
						THIS YEAR TO DATE	LAST YEAR (1959)	THIS YEAR TO DATE	LAST YEAR (1959)																					

** FATALITIES INCLUDED IN TOTAL DISABLING

"CHIPS" BEAVER,

-- *The DAM BUILDER sez:*



U.S. BUREAU OF RECLAMATION

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

SAFETY RECORD



THIRD QUARTER 1960



COMMISSIONER'S OFFICE
DENVER, COLORADO



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Front Cover Photo: Glen Canyon Unit. Traffic across the
Glen Canyon Bridge. Reclamation photo by:
A. E. Turner P-557-420-4726

SAFETY RECORD is published quarterly by the Safety Branch,
Division of Construction, Bureau of
Reclamation, Denver, Colorado, in the
interest of accident prevention.

ACCIDENT RECORD - FIRST NINE MONTHS 1960

The frequency rate of lost-time accidents for Bureau employees was 10.8 for the period January 1 - September 30, 1960. This shows a slight increase when compared to the 10.6 rate for the first six months of the year. The severity rate of 2239 is a decrease from the 3324 rate for the first half of 1960. The motor-vehicle accident rate was 0.30; a small reduction from the 0.33 rate for the first six months of the year. The estimated cost of all accidents for the third quarter was \$34,337, the lowest for any of the quarters reported this year. For the 9-month period, "handling material or equipment" type of accident accounted for the largest number - 48 or 30.6 percent of the total lost-time injuries. "Falls" were next, with 22 or 14 percent of the total lost-time injuries. Vehicle accidents accounted for 14 or 8.9 percent of the total.

On contract work, the frequency rate of accidents for contractor employees was 24.8 for the first nine months of the year. This was a slight increase over the 24.5 rate experienced during the first half of 1960. The severity rate of 9354 shows a decrease from the 9957 rate reported for the first six months of the year. During the 9-month period "handling material or equipment" accidents amounted to 43 or 21.2 percent of the total lost-time injuries. "Falls" were next with 36 or 17.7 percent of the total. This was followed closely by "falling objects" with 34 or 16.7 percent of the total lost-time injuries.

* * * * *

CARELESSNESS

Too often we use the term carelessness when speaking of the cause of an accident, and too often this word is found in our accident reports. Charging an accident to carelessness as the reason for an unsafe act tells us nothing, since in the prevention of accidents we must locate the true cause or causes. We must look beyond such a general term if we are to find the real cause. By searching out the reason behind the unsafe act we will then be able to apply the right corrective measure and prevent a similar occurrence. So let's eliminate the word carelessness as a term in our accident reporting.

* * * * *

The secret of economy is to live the first few days after pay day as you lived the last few days before.

* * * * *

MOTOR-VEHICLE ACCIDENT OF CAB-OVER-ENGINE-TYPE JEEP

A motor-vehicle accident causing the death of two employees of the Bureau occurred recently. A brief description of the accident is as follows:

Two linemen employees were proceeding in a jeep along a county dirt road to locate and gather rock for placing around transmission line structures. Following at about 200 feet was another Bureau line truck. The jeep had just turned a corner and was approximately 4 feet in from the right-hand shoulder on a straightaway section. As it continued on, it proceeded to get closer to the edge until the right front wheel started to sink into the soft shoulder. The vehicle then left the road and went down a 65- to 70-degree embankment for some 200 feet. The exact causes leading up to the accident are unknown as the driver never regained consciousness before death and the other lineman was killed instantaneously. There was no visible indication, from the tracks, that the brakes had been applied or that any attempt had been made to turn the front wheels back onto the road. Nothing was found to indicate that any part of the vehicle had failed mechanically.

The equipment involved in this accident was a 1959 - 4 x 4 cab-over-engine-type jeep pickup, with some 9000 miles of travel. This vehicle was purchased especially for use by the Transmission Division in patrolling of transmission lines. All of the witnesses to this accident stated that on several occasions they had noticed, while riding in the jeep, the driver would be 12 to 18 inches closer to the right shoulder of the road than he would be in a conventional truck. This is probably due to the fact that no part of the vehicle extends far enough ahead of the driver to give him an indication of the position of the right wheels. It is believed that the above driving characteristics of the cab-over-engine-type vehicle may have been a contributing cause of this accident.

* * * * *

AVOID DRIVING RISKS

Here are a few of the dangerous risks the Federal Safety Council cautions drivers to avoid:

1. Trying to drive too far, too fast.
2. Driving a car that's in poor shape.
(A minor auto ailment can too easily become major under the stress and strain of turnpike driving.)
3. An attitude of irritation that may "drive" you into an accident.
4. Driving after drinking.
5. Ignoring speed laws and the flow of traffic.

* * * * *

NOW THAT SCHOOL HAS STARTED

There is no simple remedy for the problem of traffic accidents involving children. It takes the combined efforts of everyone concerned--parents, motorists, the schools, and children themselves to bring about effective results.

PARENTS SHOULD:

- remember your behavior influences your children's behavior.
- drive as if you were teaching someone to drive.
- walk with the green light looking both ways first.
- coordinate your safety education with that of the school.
- see that your children play only in approved play areas.
- impress on your children the danger of playing in the street or near moving traffic.
- teach children to use roller skates, bicycles, and skooters with skill, and to practice safety rules when using them.
- impress children with importance of traffic safety rules.
- be extra cautious in foggy and rainy weather.

CHILDREN SHOULD:

- learn and obey traffic rules, signs, and officers, and school safety patrols.
- observe rules learned in school about crossing streets safely.
- play only in safe places.
- walk on the left side of the road facing traffic, if there are no sidewalks.
- only use roller skates, wagons, and skooters, on the sidewalk; never in the street.
- keep from between parked cars.
- know and practice the rules for safe bicycle riding.
- ride bicycles in single file, don't weave about.
- be extra alert on foggy and rainy days.
- look both ways before crossing streets and cross only at corners and crosswalks.

All motorists should be extra careful and observant of children who are playing. Remember--DRIVE SLOW, CHILDREN MOVE FAST.

--Region 4 Safety News--

* * * * *

It's best to be a man of few words--you have fewer to take back.

* * * * *

HOW ACCIDENTS ARE CAUSED - JUMPING ON AND OFF MOVING EQUIPMENT

An accident occurred on a contract operation which resulted in the death of a 26-year-old ironworker. The following is a brief description of the circumstances of this accident.

The accident occurred as an ironworker crew had completed their work for the day and were returning along a graveled road to the shop area to park the crane for the night. The crew members were riding at various places on the deck of a 30-ton mobile-truck crane. The crane had gone several hundred feet along the road and, as they approached the place where an 8-yard concrete bucket was close to the road, the victim jumped off and picked up a short piece of 4 x 4 which was on the ground. He then ran along beside the truck, which was traveling at about 5 miles per hour, and threw the 4 x 4 up on the deck of the crane. As he did this, he must have misjudged the clearance he had between the crane and the concrete bucket. Apparently his shoulder struck the bucket and caused him to fall and roll under the rear tandem wheels of the truck. He was killed instantly.

The Investigating Committee made, in part, the following comments:

- (1) The victim failed to use proper precautions for his own safety when he jumped from a moving vehicle.
- (2) He jumped from the moving truck voluntarily without the knowledge of the foreman, who had his back turned towards him at the time. Neither did he make his intentions known to the driver of the vehicle.
- (3) The piece of 4 x 4 he was attempting to get was not really necessary to move the vehicle with, but is used to keep the cables in the rigging overhead from slapping together.
- (4) While the concrete bucket contributed to the accident by creating a narrow passageway, there was no reason why the victim could not have seen it and gone around.

The fundamental cause of this accident, as indicated above, was the unsafe practice of jumping off a moving vehicle and then attempting to get back on again. Also, the practice of a crew riding on the deck of a mobile-truck crane can be considered to be taking a calculated risk. In general, the transportation of workmen should be done in regular passenger-carrying vehicles.

* * * * *

Never wear sunglasses while driving at night. Sunglasses cut night vision and actually block out a dangerous percentage of the driver's view.

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LIFTING

Here is a pattern for a short talk on lifting coupled with appropriate demonstrations, which should help convince employees the safe method of lifting really makes sense and that they are needlessly exposing themselves to injury when they lift the wrong way.

When you have a lifting job to do, do you know how? And are you prepared? First, there's always the chance of something slipping and landing on your toes. Safety shoes are not expensive and will offer protection. Handling material with rough or sharp edges calls for good, tough gloves.

Now, suppose you're going to lift a 40-pound load. Does its position give you room to lift without awkward twisting of the body? Twisting while lifting can cause severe injury. Why not slide the object to an open space? Now, size up the load--for the best holds, weak spots, or other faults that might cause trouble. Be sure your footing is good, then give the load a little "heft." If it is heavier than you thought and you can't handle it, get help.

We're ready to lift now. You've heard it said many times, "bend the knees; keep the back straight" - but why. Here's a stunt that will illustrate the point. Take a light chair and hold it straight out at arm's length; now bring it in and hold it close to the body. Notice the difference? The weight is now carried by your whole body, not just your arm muscles. You have the awkward, off-balance position when you bend at the waist and lean over with the back horizontal. The load is too far from the center of balance and all the strain is on the lower back muscles.

When we say "bend the knees," we don't mean to squat until you sit on your heels - you won't have any leg power to raise a load from that position. Your position at the start of the lift should be more of a "crouch" so that the power of your leg muscles can be exerted.

When we say "keep the back straight" that doesn't mean straight up like a flagpole, for you'd be off balance. It means reasonably straight, just so the back muscles won't be doing the work.

Now for the lift. Place your feet on either side of the load and bring the shoulders directly over the load when you lift. Bend your knees at about right angles and lean forward just enough to grasp the load - but do not curve the back any more than necessary. Get a firm grasp on opposite corners of the load, straighten your legs, and raise with a smooth even motion - never a sudden jerk or twist. As you reach standing position, your back straightens to normal position, and the load is brought close to the body in comfortable carrying position.

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HOW ACCIDENTS ARE CAUSED - FAILURE OF CRANE BOOM

Recently an accident occurred on contract operations and a 23-year-old welder lost his life. The contractor was using a 20-ton crane, with 50-foot boom, to pull interlocking steel piling from around a transmission tower footing. The crane was rigged with a two-part line that ran through a single sheave block that carried the hook. The hook was inserted in a clevis that was attached through a hole in the top of the pile. Several piling had been pulled by this method without any difficulty. When a pull was placed on a corner pile, refusal was met. Before the accident, several pulls were made on this pile without success. Suddenly the base section of the boom failed, about 10 feet from the mount, the boom twisted and the remainder of the boom fell at about a 90-degree angle from the base. The welder, who was some 30 feet from the cab of the machine, was struck by the end of the falling boom and received fatal injuries.

In making these pulls, the rig was subjected to stresses beyond its designed operating capacity. There is the possibility that side pulls may have previously weakened the boom. The section of the boom that failed had been replaced by a foundry after being damaged a couple of years ago on another job. The replaced section, although visually as good as the remainder of the boom, failed with the overstressing of the rig. Several of the welds on the cross bracing broke during the failure. One of them showed rust, which indicated previous cracks. Failure from overstressing usually gives no warning, and can occur at any time even when subjected to much less than maximum strain. A replaced section of a boom may not have the full capacity of the factory-built original.

Hoisting equipment is constructed to known capacities which include a factor of safety. Overstressing of equipment should be avoided, and we must recognize the limitations of the equipment and operate it within its known capacities. Generally, a pile extractor should be used to pull out a jammed pile.

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THE FIRST ESSENTIAL

That well-known slogan "Safety first, quality second, production third" was born in the steel industry early in the century.

It was based on the conviction that safety is an operating responsibility. It said in effect: "We must not only produce steel, we must produce steel of high quality, but above those considerations we must produce it safely."

And as one of my contemporaries added recently: "If we cannot afford safety, we cannot afford to be in business." It is just that simple and blunt. We cannot pass this buck or duck this responsibility, nor should we ever try to do so. Production must be safe production.

--Benjamin Fairless, President
American Iron & Steel Institute

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SIX TIPS FOR SAFE WINTER DRIVING

1. **IT'S UP TO YOU.** You know that driving conditions are less favorable during the winter. It's up to you to winterize your car, to winterize your driving techniques, and to winterize your determination to avoid accidents.
2. **HAVE GOOD TIRES - USE TIRE CHAINS.** Whether you use regular or snow tires, make certain that the tread has not been worn smooth. Use reinforced tire chains for deep snow, hard-packed snow, or ice. Chains cut stopping distances about half, and give from four to seven times more traction than do regular tires. But slower than normal speeds are a must on snow and ice.
3. **KEEP WINDSHIELD AND WINDOWS CLEAR.** Be sure that your wiper blades, heater, and defroster are operating properly. Clean snow and ice from the windshield and from all windows of your car. Ventilate to keep the inside of your windows from fogging.
4. **GET THE FEEL OF THE ROAD.** Try your brakes occasionally while driving slowly and away from traffic to find out if the road is slippery. Then you can adjust your speed to road and weather conditions.
5. **FOLLOW AT A SAFE DISTANCE.** Keep well back of the vehicle ahead so that you will have plenty of room to stop. Without tire chains, it takes three to twelve times as far to stop on snow and ice as it does on dry pavement. You may find it hard to explain why you couldn't stop when the other fellow did.
6. **PUMP YOUR BRAKES.** The best techniques for stopping quickly on snow or ice while maintaining full control of your car is a fast up and down pumping of your brakes. Jamming and "freezing" on your brakes is almost certain to lock your wheels. This is likely to throw your car into an uncontrollable and dangerous skid.

--N. S. C. --

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The traffic officer ordered the motorist to pull up to the curb and produce his driver's license.

"I can't understand this, officer," the motorist protested, "I haven't done anything wrong."

"No, you haven't," the officer replied, "but you were driving so carefully, I thought you might not have your driver's license."

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WORK HABITS

Are They Good or Bad?

We all form habits. They can be good habits and to our advantage if we properly analyze our jobs and apply ourselves accordingly. Habit plays an important part in anything we do and in a large measure determines what our accident frequency and severity rates will be.

SUGGESTIONS FOR FOREMEN'S SAFETY MEETINGS

<u>Subject</u>	<u>Good habits</u>	<u>Bad habits</u>
Driving motor vehicles	Precision driving - doing the right thing everytime - good maintenance.	Giving signs, observing speed limits, etc., only when you think you have to, maintenance neglect.
Housekeeping	A place for everything and everything in its place.	No time to do house-keeping.
Lifting	Know how to lift - avoid overlifting.	Overlifting, lifting with one's back, or in an awkward position.
Use and care of small tools	Know the safe way to use each tool. Use right tool for each job and keep them in good condition.	Tools in poor condition. Wrong tool for the job.
Handling materials or equipment	Calls for good supervision, careful planning, good team work.	No supervision or planning.
Poison weeds, snakes, and insects	Know conditions you are exposed to. Use all necessary protective and preventive measures. Get prompt first aid and medical attention.	Very little or no thought given to the matter.
Worry	Take stock of your problems. Do what can be done to solve them. Put your mind at rest.	Continually turn your problems over in your mind, but take very little or no action.

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INSTRUCTIONS

USE THIS FORM TO CONSOLIDATE ALL BUREAU ACCIDENTS REPORTED IN COMPLIANCE WITH 355 DM 4. REFER TO THE REVERSE SIDE FOR DETAILED INSTRUCTIONS.

REMARKS:

ITEM	PERIOD REPORTED	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL TO DATE	
		NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS
1.	INJURY OR DAMAGE INCURRED FROM ACCIDENTS	47	\$20,774	49	\$21,658	56	\$24,752			152	\$67,184
	WORK INJURIES AND LOSS AV. DISABLING X \$ 442										
	NON DISABLING X \$ 9	136	1,224	135	1,215	138	1,242			409	3,681
	FATALITIES X \$ 42,975	1	42,975	4	171,900	0	--			5	214,875
	SUB TOTAL	184	64,973	188	194,773	194	25,994			566	285,740
2.	FIRES	5	1,465	1	525	2	745			8	2,735
3.	TORT CLAIMS	5	2,120.85	2	3,692.51	5	1,502.01			12	7,315.37
4.	MOTOR VEHICLES	26	11,429.22	19	13,161.11	18	5,909.74			63	30,500.07
5.	PROPERTY DAMAGE NOT INCLUDED IN ITEMS 2, 3, & 4	3	456.16	1	50.	3	186.35			7	692.51
6.	TOTAL	223	\$80,444.23	211	\$212,201.62	222	\$34,337.10			656	\$326,982.95

MOTOR VEHICLE ACCIDENT EXPERIENCE

ITEM	TOTAL MILES DRIVEN USING GOVT. OWNED OR LEASED MOTOR VEHICLES	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL OF MILES DRIVEN	
		NO.	FREQUENCY RATE	NO.	FREQUENCY RATE	NO.	FREQUENCY RATE	NO.	FREQUENCY RATE		
7.		5,587,581		7,900,673		7,765,453				21,253,707	
8.	MOTOR VEHICLE ACCIDENT RATE: NO. OF REPORTABLE MOTOR VEHICLE ACCIDENTS PER 100,000 MILES DRIVEN	26	0.46	19	0.24	18	0.23			0.30	
SIGNATURE		TITLE								DATE OF SUBMISSION	

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LOST TIME ACCIDENT SUMMARY

GOVERNMENT FORCES

January through September 1960

January through September 1960										TYPES OF ACCIDENTS - THIS YEAR TO DATE																			
REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST - CHEMICALS - GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS JUMPING TO OR FROM PLACES	STRIKING AGAINST MATERIAL	FLYING PARTICLES	HAND TOOLS	MACHINERY NOT OTHERWISE CLASSIFIED	TOTAL	
			DISABLING	FATAL **		THIS YEAR TO DATE	LAST YEAR (1959)	THIS YEAR TO DATE	LAST YEAR (1959)																				
Washington Office	224	343,336				0.0	0.0	0	0																				
Denver Office and Laboratories	1,254	1,917,904	2		2	1.0	2.4	1	41												1		1						2
Alaska District	44	66,118	3		20	45.4	38.8	302	388																			3	3
REGION 1																													
Boise Regional Office	230	323,558				0.0	6.8	0	9																				
Central Snake Projects Office	49	69,213	2		72	28.9	22.4	1,040	235																		2	2	
Chief Joseph Dam Project	20	27,758				0.0	0.0	0	0																				
Columbia Basin Project Office	491	1,361,952	19		110	14.0	13.2	81	134				2							6	2	4		2	1	2	10		
Crooked River Project	32	49,890				0.0	16.1	0	468																				
Hungry Horse Project Office	60	84,274	2			21.2	15.8	74	24													1					1	2	
Minidoka Project	198	255,628	4		14	15.0	12.6	53	60											1		1		2				4	
Rogue River Project Office	80	123,992	1		2	8.1	21.8	16	54																				
Yakima Project	99	132,597	6		198	45.2	15.4	1,493	149					1						1	1						3	6	
Totals and Averages	1,659	2,448,862	34		403	13.9	13.2	164	111																				
REGION 2																													
Sacramento Regional Office	451	689,928	1		108	0.0	3.3		25																				
Folsom	79	123,935				0.0	16.2	0	555																		1	1	
Fresno	149	228,700	1		38	4.4	3.7	166	96																		1	1	
Shasta Dam	122	188,116	2		71	10.6	0.0	377	0																				
Tracy	185	287,947				0.0	0.0	0	0													1					1	2	
Distribution System Projects Office	39	62,760				0.0	-	0	-																				
El Dorado Project Office	54	84,136	2	1	6,076	23.8	0.0	72,216	0				1				1											2	
Klamath Project	38	59,544				0.0	0.0	0	0																				
Lahontan Basin Office	46	72,987				0.0	48.9	0	195																				
Sacramento Valley Canals Office	11	17,514				0.0	0.0	0	0																				
Trinity River Project Office	274	422,560	3		71	7.1	14.9	168	264					2							1							3	
Ventura River Project	3	1,792				0.0	8.3	0	17																				
Totals and Averages	1,451	2,241,919	9	1	6,364	4.0	6.4	2,839	123																				
REGION 3																													
Boulder Regional Office	126	193,976	1		2	5.1	0.0	10	0																				
Boulder Canyon Project	158	247,372	10		668	40.4	21.7	2,700	1,184										1	5			1			1	1	10	
Colorado River FWEIS Project	132	185,131	11		208	59.4	35.7	1,123	727									1		5	1	2				2	11		
Parker-Davis Project	261	417,126	5		101	12.0	15.4	242	10,516											4		1					2	5	
Yuma Projects Office	122	180,303	8		57	44.4	32.1	316	70											1								4	8
Totals and Averages	799	1,223,908	35		1,036	28.6	20.1	846	4,085					1			1	1											
REGION 4																													
Salt Lake Regional Office	238	364,235				0.0	0.0	0	0																				
Central Utah Projects Office	114	174,841	2		3	11.4	0.0	17	0																				
Flaming Gorge Unit, CRSP	101	145,310				0.0	0.0	0	0																				
Glen Canyon Unit, CRSP	237	372,504	3	1	6,014	8.0	4.6	16,145	102					1							1	1						3	
Navajo Unit, CRSP	55	100,343	1		7	10.0	8.2	70	33											1								1	
Transmission System Office, CRSP	26	39,772				0.0	44.4	0	178																				
Durango Projects Office	59	88,348	1		2	11.3	23.1	23	150																			1	1
Grand Junction Office	162	256,233	1		13	3.9	17.7	51	289																				
Logan Area Office	12	19,208	1		9	52.1	0.0	468	0					1														1	1
Upper Green River Office	67	106,988	1		1	9.3	15.3	9	46																			1	1
Weber Basin Project	144	232,304	2		32	8.6	6.9	138	168					1														1	2
Totals and Averages	1,215	1,900,286	12	1	6,081	6.3	6.8	3,200	92																				
REGION 5																													
Amarillo Regional Office	181	252,165	2		4	7.9	0.0	16	0																			2	2
Albuquerque Project Office	239	468,373	17		150	26.3	22.0	320	798								1		8			2				2	2	1	17
Lower Rio Grande Rehab. Project	47	74,029				0.0	0.0	0	0																				
Rio Grande Project	276	462,134	17		128	26.8	17.0	277	124				1							2		3				1	2	17	
San Angelo Project	65	99,884	1		1	10.0	60.5	10	696																			1	1
San Luis Valley Project	2	1,357				0.0	0.0	0	0																				
Washita Basin Project	97	143,928				0.0	9.0	0	327																				
Totals and Averages	1,007	1,509,870	37		283	24.5	18.4	187	368																				
REGION 6																													
Billings Regional Office	170	238,035	2		97	8.4	0.0	407	0																			1	2
Highhorn Project Office	9	15,501				0.0	18.3	0	284																				
Canyon Ferry Project Office	21	24,819	1		8	28.7	0.0	230	0																			1	
East Bench Project Office	17	25,209				0.0	-	0	-																				
Fort Peck Project	39	53,521				0.0	13.4	0	94																				
Helena Valley Project Office	29	42,968	1		6	23.3	11.9	140	191												1							1	
Lower Missouri Power Project Office	9	5,160				0.0	-	0	-																				
Missouri-Gabe Projects Office	187	275,757	2		4	7.2	5.6	14	39												2							2	
Missouri-Souris Projects Office	185	271,487	3		31	11.0	2.6	114	21												2							1	3
Owl Creek Project Office	17	27,192				0.0	0.0	0	0																				
Power System Operations Office	35	57,300				0.0	-	0	-																				
Riverton Project	28	39,871	1		47	25.1	0.0	1,179	0																			1	1
Upper Missouri Projects Office	72	100,503	4		132	39.8	9.9	1,313	178																				4
Totals and Averages	818	1,189,223	14		325	11.8	5.7	273	71												1		1		1				
REGION 7																													
Denver Regional Office	160	242,656				0.0	2.8	0	407																				
Ainsworth Project Office	9	5,696				0.0	-	0	-																				
Denver Development Office	26	12,976				0.0	-	0	-																				
Farwell Project	100	160,184				0.0	0.0	0	0																				
Grand Island Development Office	45	70,852	1		3	14.1	-	42	-																			1	1
Kansas River Projects	324	496,068				0.0	4.7	0	25																				
Niobrara River Office	9	1,895				0.0	11.8	0	35																				

*FATALITIES INCLUDED IN TOTAL DISABLING

LOST TIME ACCIDENT SUMMARY

CONTRACTOR FORCES

January through September 1960

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																				
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST - CHEMICALS - GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS FROM PLACES NOT OTHERWISE CLASSIFIED	JUMPING TO OR FROM PLACES	STRIPPING AGAINST MATERIAL	FLYING PARTICLES	HAND TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED	TOTAL
						THIS YEAR TO DATE	LAST YEAR (1959)	THIS YEAR TO DATE	LAST YEAR (1959)																					
REGION 1																														
Chief Joseph Dam Project	2	488				0.0	0.0	0	0																					
Columbia Basin Project	120	165,148	7		72	42.4	34.0	43	563																					
Grooved River Project	95	116,091	3		21	25.8	106.7	181	29,697																					
Hungry Horse Project	3	519				0.0	0.0	0	0																					
Mindoka Project	12	11,240				0.0	24.0	0	1,746																					
Rouse River Basin Project	112	165,409	11		287	66.5	59.8	1,735	17,685																					
Takima Project	19	18,833				0.0	0.0	0	0																					
Totals and Averages	363	478,028	21		380	43.9	37.2	795	12,492																					
REGION 2																														
Sacramento Regional Office	9	4,140				0.0	0.0	0	0																					
Distribution System Projects Office	28	28,882	1		30	34.6	0.0	1,039	0																					
El Dorado Project Office	16	16,821	1		10	59.3	--	592	--																					
Klamath Project	23	22,324	1			0.0	0.0	0	0																					
Lahontan Basin Office	77	61,023	4		13	65.5	--	213	--																					
Sacramento Valley Canals Office	45	47,477				0.0	45.0	0	809																					
Trinity River Project Office	919	1,578,457	38	2	13,068	24.1	36.8	8,279	5,247																					
Ventura River Project	3	1,184				0.0	19.4		39,233																					
Totals and Averages	1,120	1,760,338	44	2	13,121	25.0	35.2	7,454	6,792																					
REGION 3																														
Boulder Regional Office	9	5,321				0.0	0.0	0	0																					
Boulder Canyon Project	20	16,892	1	1	6,000	59.2	0.0	355,135	0																					
Colorado River RWIS Project	12	636				0.0	132.8	0	814,996																					
Parker-Davis Project	11	9,451				0.0	0.0	0	0																					
Yuma Projects Office	137	225,614	2		132	8.9	35.4	585	71																					
Totals and Averages	189	227,917	3	1	6,132	11.6	37.8	23,775	13,554																					
REGION 4																														
Central Utah Project Office	73	135,649				0.0	14.4	0	202																					
Fleming Gorge Unit, CRSP	284	478,173	5	2	12,057	10.4	14.6	25,215	5,606																					
Glen Canyon Unit, CRSP	1,026	1,461,447	30	2	12,913	20.2	12.6	8,826	5,671																					
Navajo Unit, CRSP	425	765,703	15	1	6,212	19.6	24.3	8,113	53,721																					
Grand Junction Office	281	464,822	17	1	6,371	36.6	54.9	13,706	15,612																					
Upper Green River Office	3	324				0.0	0.0	0	0																					
Weber Basin Project	119	169,605	5		66	29.5	20.4	389	25,384																					
Totals and Averages	2,209	3,475,726	72	6	37,619	20.7	22.5	10,823	7,792																					
REGION 5																														
Amarillo Regional Office	1	255				0.0	0.0	0	0																					
Albuquerque Project Office	31	37,308				0.0	7.8	0	23																					
Lower Rio Grande Project	52	64,124	4		27	62.4	--	421	--																					
San Angelo Project	163	166,944	6		94	35.9	--	563	--																					
Washita Basin Project	350	531,789	13		248	24.4	20.1	466	293																					
Totals and Averages	607	800,420	23		369	28.7	18.3	461	253																					
REGION 6																														
Bighorn Project Office	23	29,699				0.0	39.7	0	1,885																					
East Bench Project Office	3	238				0.0	--	0	--																					
Helena Valley Project Office	47	54,173				0.0	17.5	0	796																					
Missouri-Cahle Projects Office	40	44,163	2		18	45.3	95.6	407	797																					
Missouri-Scuria Projects Office	211	296,885	12	1	6,192	40.4	27.2	20,856	186																					
Owl Creek Project Office	65	102,757	3	1	6,006	29.2	33.3	58,448	574																					
Riverton Project	13	9,253				0.0	0.0	0	0																					
Totals and Averages	402	537,168	17	2	12,216	31.6	29.7	22,741	468																					
REGION 7																														
Farwell Project	65	81,259	2		11	21.0	--	132	--																					
Kansas River Projects	276	442,024	5		61	11.2	0.0	127	0																					
North Platte River Projects	211	327,981	16	1	6,476	48.8	59.0	19,745	1,022																					
South Platte River Projects	11	264				0.0	0.0	0	0																					
Totals and Averages	563	856,718	23	1	6,348	26.8	32.0	7,643	2,317																					
</																														

*FATALITIES INCLUDED IN TOTAL DISABLING



**KEEP
OFF
the
GAS**



**SLOW DOWN
and LIVE**

14. 805
RR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

SAFETY RECORD



YEAR 1960



THE UNIVERSITY OF ILLINOIS
MAR 1 1961
UNIVERSITY OF ILLINOIS



OFFICE OF THE ASSISTANT COMMISSIONER
AND CHIEF ENGINEER
DENVER, COLORADO

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Front Cover Photo: View in spillway tunnel at Flaming Gorge Dam.
Finished diameter of concrete-lined tunnel in
this section will be 18 feet. Reclamation
photo by F. B. Slote. P 591-421-2764

SAFETY RECORD is published quarterly by the Safety Branch,
Division of Construction, Bureau of Rec-
lamation, Denver, Colorado, in the
interest of accident prevention.

ACCIDENT FACTS FOR 1960

The lost-time accident record on Reclamation operations for 1960 is summarized on Pages 4 and 5 of this issue. A breakdown of accidents according to the type of work activity for Government operations by regions is shown on Pages 6-8. Project accident statistics for both Government and contractor forces are shown in the tables on Pages 13 and 14.

This past year Bureau forces, with a frequency rate of 9.6, experienced a 5.5 percent increase when compared to the 9.1 rate in 1959. The severity rate was 1,732 compared to 464 in 1959. On a bureauwide basis, the largest number of accidents (30 percent) were caused from handling material or equipment. Falls of persons accounted for 15.5 percent of the accidents. Motor vehicles accounted for 7.5 percent and machinery caused 5.3 percent of the accidents. The above 4 types accounted for 58.3 percent of the total lost-time accidents.

A look at our 1960 record for Bureau employees (Page 4) when summarized into 6 types of major work classification, shows the frequency rate varies from a low of 0.6 in design work to a high of 23.9 on irrigation operations.

The Bureau's motor vehicle accident statistics for 1960 are shown at the bottom of the table on Page 12. The motor vehicle rate was 0.265 per 100,000 miles traveled; a 19.7 percent reduction from the 0.33 rate in 1959. Regional rates are shown on Page 11.

For the contractor operations on Bureau projects (Page 5), we find their frequency rate ranged from a low of 17.1 on concrete dams to a high of 56.5 on tunnel work. The contractors' overall frequency rate of 25.9 represents a 16.4 percent reduction when compared to their 31.0 rate in 1959. As to the type of accidents from the table on Page 13, we find that handling material or equipment with 21.3 percent was the contractors' largest source of accidents, followed by falls of persons with 19 percent, 16.7 percent from falling objects and 8 percent from machinery. The above 4 sources of accidents accounted for 65 percent of the total lost-time accidents to contractor employees.

A summary of estimated costs of Bureau accidents in 1960 is shown in the table on Page 12, for work injuries and fatalities, structural fires, tort claims, motor vehicles, and property damage accidents. This sum amounted to \$368,257 for calendar year 1960, and shows an increase of \$124,518 over the \$243,729 estimated costs in 1959. The increase is due mainly to the increased number of fatalities that occurred during 1960.

ACCIDENT EXPERIENCE SUMMARY - 1960

This issue of the SAFETY RECORD contains a summary of the accident experience of Government and contractor forces during calendar year 1960.

GOVERNMENT FORCES

Frequency Rate: For 1960, the Government accident frequency rate was 9.6. Compared with the 9.1 rate for 1959, this represents a 5.5 percent increase in the frequency rate.

Severity Rate: In 1960, the Government forces severity rate was 1,732, as against a severity of 464 in 1959. The number of days lost time was 33,582 compared to 9,036 days in 1950.

Man-Hour Exposure: The total man-hours of work for Bureau employees in 1960 was 19,384,268, a decrease of 88,118 from 1959.

Fatalities: In 1960 Bureau forces sustained five fatalities, compared to one in 1959. Motor vehicle accidents accounted for three, contacting transmission line one, and one by falling with broken power pole.

Lost-Time Injuries: Bureau forces had a total of 187 lost-time injuries compared to 178 in 1959.

Type of Major Work Activity: The following table gives the distribution of Bureau accident experience in relation to the major types of work performed:

<u>Type of Work</u>	<u>Man-Hour Exposure</u>	<u>Lost-Time Injuries</u>	<u>Days Lost</u>	<u>Frequency Rate</u>	<u>Severity Rate</u>
Administration	4,727,680	6	334	1.3	71
Construction	5,077,941	43	6,930	8.5	1,365
Design	1,584,824	1	19	0.6	12
Investigation	1,874,419	15	6,304	8.0	3,363
O&M					
Irrigation	2,884,778	69	752	23.9	261
Power	3,234,626	53	19,243	16.4	5,949
Totals and Averages	19,384,268	187	33,582	9.6	1,732

ACCIDENT EXPERIENCE SUMMARY - 1960 (Continued)

CONTRACTOR FORCES

Frequency Rate: The contractor accident frequency rate of 25.9 represents a 16.4 percent reduction when compared to the 31.0 rate in 1959.

Severity Rate: In 1960, the contractor severity rate was 9,232. This compares with a 7,098 rate in 1959.

Man-Hour Exposure: Contractors worked a total of 11,625,577 man-hours in 1960. This represents an increase of 786,911 hours from the total of 10,838,666 in 1959.

Fatalities: In 1960, contractor forces sustained sixteen fatalities, five more than the total in 1959. Struck by tunnel locomotive one; four from falls; struck by booms two; overturning of heavy equipment four; one by drowning; run over by mobile crane one; one killed by lightning; struck by rock from blasting one; and one struck by falling object.

Lost-Time Injuries: Contract forces had a total of 301 lost-time injuries in 1960 as against 336 in 1959.

Type of Work: The following table summarizes the accident experience as it relates to the major types of operation performed by contractors on Bureau projects in 1960.

<u>Type of Work</u>	<u>Man-Hour Exposure</u>	<u>Lost-Time Injuries</u>	<u>Days Lost</u>	<u>Frequency Rate</u>	<u>Severity Rate</u>
Canals	2,250,760	50	12,856	22.2	5,712
Concrete Dams	3,100,735	53	43,606	17.1	14,063
Earth Dams	4,109,449	99	18,275	24.1	4,447
Tunnels	795,985	45	13,274	56.5	16,676
Transmission Lines and Substations	592,401	30	12,370	50.6	20,881
Miscellaneous	<u>776,247</u>	<u>24</u>	<u>6,944</u>	<u>30.9</u>	<u>8,946</u>
Totals and Averages	11,625,577	301	107,325	25.9	9,232

* * * * *

BUREAU OF RECLAMATION
GOVERNMENT FORCES
C. Y. 1960

ACCIDENT SUMMARY BY WORK ACTIVITY

<u>Alaska District</u>					
<u>Major Activity</u>	<u>Man-Hour Exposure</u>	<u>Lost-Time Accidents</u>	<u>Days Lost</u>	<u>Frequency Rate</u>	<u>Severity Rate</u>
Investigation	30,662	1	9	32.6	293
Power	<u>51,557</u>	<u>2</u>	<u>11</u>	<u>38.8</u>	<u>213</u>
Totals & Averages	82,219	3	20	36.5	243
<u>Denver Office & Laboratories</u>					
Design, etc.	2,550,992	4	27	1.6	10
<u>Washington Office</u>					
Administration	455,432	0	0	0	0
<u>Region 1</u>					
Administration	791,049	2	192	2.5	243
Construction	519,981	4	14	7.7	27
Investigation	157,637	1	2	6.3	13
Irrigation	692,345	15	134	21.7	193
Power	<u>1,068,358</u>	<u>16</u>	<u>114</u>	<u>15.0</u>	<u>107</u>
Totals & Averages	3,229,370	38	456	11.8	141
<u>Region 2</u>					
Administration	833,584	0	0	0	0
Construction	808,060	8	486	9.9	601
Investigation	215,683	3	6,138	13.9	28,458
Irrigation	711,840	1	38	1.4	53
Power	<u>408,578</u>	<u>3</u>	<u>221</u>	<u>7.3</u>	<u>541</u>
Totals & Averages	2,977,745	15	6,883	5.0	2,311

ACCIDENT SUMMARY BY WORK ACTIVITY (Continued)

Region 3

<u>Major Activity</u>	<u>Man-Hour Exposure</u>	<u>Lost-Time Accidents</u>	<u>Days Lost</u>	<u>Frequency Rate</u>	<u>Severity Rate</u>
Administration	375,536	1	2	2.7	5
Construction	273,708	13	213	47.5	778
Investigation	51,174	0	0	0	0
Irrigation	130,788	8	57	61.2	436
Power	<u>766,823</u>	<u>16</u>	<u>764</u>	<u>20.9</u>	<u>996</u>
Totals & Averages	1,598,029	38	1,036	23.8	648

Region 4

Administration	479,218	0	0	0	0
Construction	1,524,202	14	6,289	9.2	4,126
Investigation	576,584	4	18	6.9	31
Irrigation	<u>7,608</u>	<u>1</u>	<u>2</u>	<u>131.4</u>	<u>263</u>
Totals & Averages	2,587,612	19	6,309	7.3	2,438

Region 5

Administration	306,025	0	0	0	0
Construction	494,359	2	6	4.0	12
Investigation	244,497	1	1	4.1	4
Irrigation	859,310	40	446	46.5	519
Power	<u>101,512</u>	<u>2</u>	<u>21</u>	<u>19.7</u>	<u>207</u>
Totals & Averages	2,005,703	45	474	22.4	236

ACCIDENT SUMMARY BY WORK ACTIVITY (Continued)

<u>Region 6</u>					
<u>Major Activity</u>	<u>Man-Hour Exposure</u>	<u>Lost-Time Accidents</u>	<u>Days Lost</u>	<u>Frequency Rate</u>	<u>Severity Rate</u>
Administration	451,596	2	49	4.4	108
Construction	358,785	1	6	2.8	17
Investigation	247,469	3	116	12.1	469
Irrigation	135,088	3	66	22.2	488
Power	<u>380,717</u>	<u>5</u>	<u>40</u>	<u>13.1</u>	<u>105</u>
Totals & Averages	1,573,655	14	277	8.9	176
<u>Region 7</u>					
Administration	692,100	0	0	0	0
Construction	631,506	0	0	0	0
Investigation	254,033	2	20	7.9	79
Irrigation	331,959	1	9	3.0	27
Power	<u>413,913</u>	<u>8</u>	<u>18,071</u>	<u>19.3</u>	<u>43,659</u>
Totals & Averages	2,323,511	11	18,100	4.7	7,790
Bureau Consolidated Totals	19,384,268	187	33,582	9.6	1,732

* * * * *

Weekends are a time of rest. For too many they are the beginning of permanent rest because more persons are killed in automobile accidents on weekends than any other time of the week.

* * * * *

HOW ACCIDENTS ARE CAUSED - FALLING OBJECT

Upon completion of their day's work, a number of employees were ascending a long ladder along the track at the invert of an inclined tunnel (55 degrees). Normally a man skip is used for this purpose, but it had been taken out of service some 10 minutes before, after bringing out two crews. A crew of ironworkers at the top of the tunnel were preparing to lower a pumpcrete machine. In order to do this, it was necessary to remove a number of idler rollers and lower them between the ties to have sufficient clearance. After burning off the spikes, an ironworker attempted to lower a roller (75 #) with a wire rope which was wrapped around the roller frame. As he lifted it, the 1/2-inch rope broke and the roller fell down along the ladder that the men were climbing. It struck a carpenter on the head, causing him to fall with resultant fatal injuries.

The major contributing causes considered by the Investigating Committee were as follows:

1. Because the man skip was not lowered into the tunnel at shift change, it was necessary for the men left in the tunnel to climb the ladder and be exposed to the hazard of men working above them.
2. The ironworker crew should have lowered the man skip to bring all the men out, thereby avoiding unnecessary exposure to working above them.
3. The wire rope which broke and caused the roller to fall appeared to be in new condition except for four spots where it had been crushed or nearly worn through. This could have been caused by the roller rubbing against it or it could have been struck by a hammer while spiking the idler roller down.

It was the conclusion of the Investigating Committee that the fatal accident to the carpenter employee was caused by a defective piece of 1/2-inch wire rope, the failure of the ironworker crew working above them to take proper safety precautions for the men below, and poor planning by the ironworker supervisor.

The committee recommended the following action be taken to minimize the occurrence of similar accidents:

1. That the idler rollers be permanently cabled to the ties so they can be shifted safely when necessary.

2. That the contractor continue to stress the importance of teaching the hazards involved in heavy construction work through supervisors' safety meetings, tool-box meetings, etc.
3. That all superintendents be readvised to be continually on the alert to observe any unsafe methods or unnecessary hazardous acts performed by any of their supervisors or employees.
4. That the contractor maintain suitable barricades at the inlet portals of the spillway tunnels and at various intervals across the tunnel inverts to catch loose objects which might be dropped or rocks which may fall from the tunnel.

* * * * *

CRANE BOOM ACCIDENTS

While the frequency of crane boom accidents may not appear to be a common occurrence to the individual contractor, such accidents in the construction industry are of major significance and occur all too often.

Analysis of the cause and circumstances involved in such accidents emphasizes the following:

- a. Booms are overloaded.
- b. Repairs and alterations are made by unqualified personnel and of materials inferior in strength.
- c. Racking of booms by side lifts and pulls distorts the boom members causing boom failure.
- d. Supervisor's and operator's lack of knowledge of crane capacity.
- e. Poor judgment in positioning cranes and in the boom angle for lifts.
- f. Lack of or inefficient boom stops, which can result in over-topping.

Inspection and maintenance should be regular and thorough.

Insure that all crane operators are fully experienced and physically qualified for their job.

Major lifting jobs demand close supervision. Preplanning, organizing, and exercising proper control of the work will eliminate most of the failures which cause accidents.

--Construction Section, NSC--

HOW ACCIDENTS ARE CAUSED - BLASTING

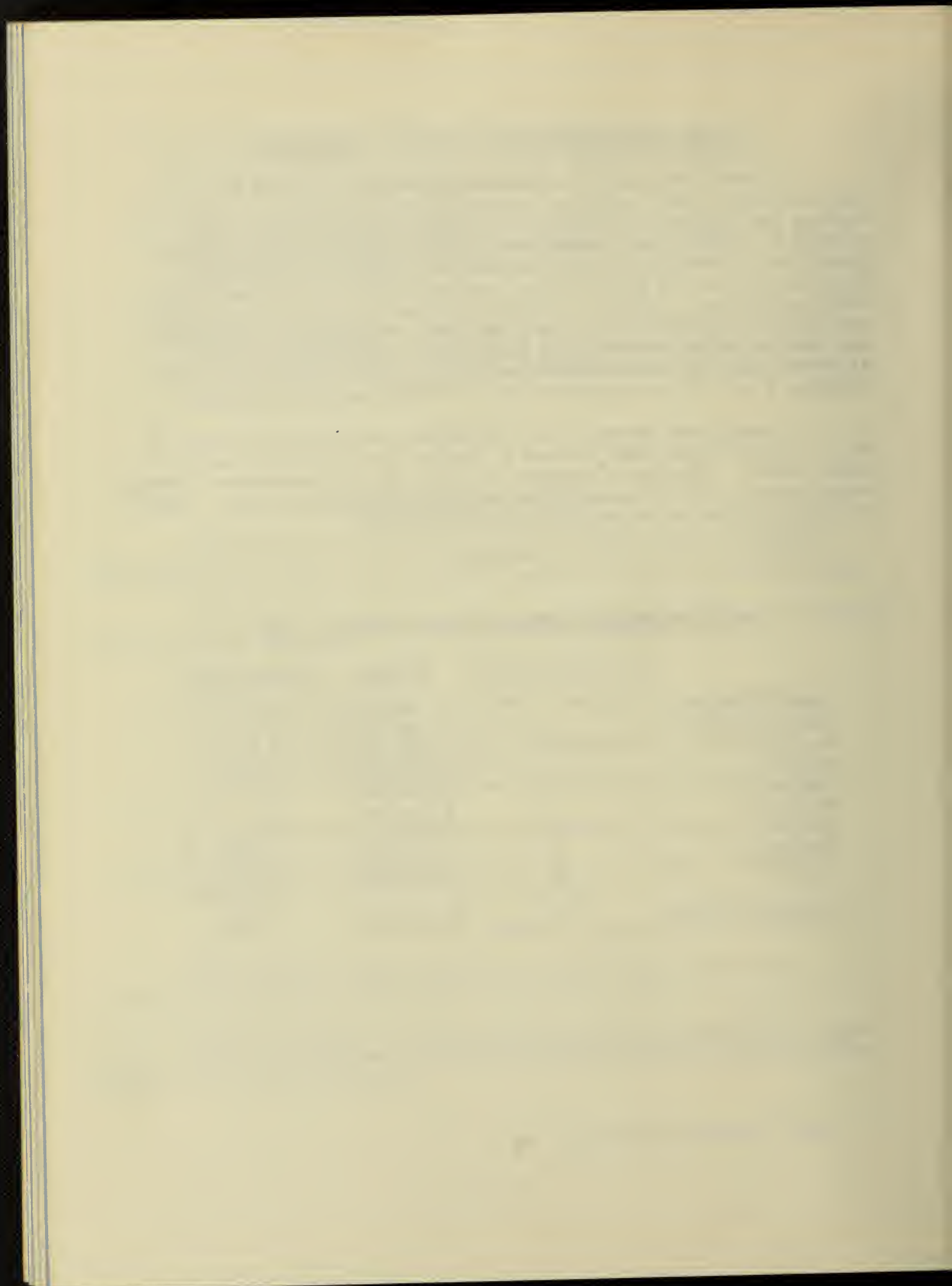
A recent accident on contract operations occurred when a flying rock from a blast struck an excavation foreman on his hard hat causing fatal injuries. The excavation foreman and a blaster were working in an open inlet channel to a tunnel. They were shooting misfires from a previous blast and had set two charges of one stick of dynamite each as the primer along with some black powder left in the two 5-foot holes. A pickup truck was stationed above the embankment and back some 210 feet away from the shot. The battery of the truck was used to do the shooting with the truck as a protective barrier. After the blast the victim was hit on the top of his hard hat by a rock weighing 1 and 1/4 pounds as he came out from behind the pickup.

Insufficient distance from the point of blasting to the place of detonation plus inadequate amount of shelter were the main causes of this accident. Shooting of misfires requires the use of standard blasting safety procedures, the same as for regular blasting operations. Short-cut methods must never be used in blasting work.

* * * * *

BUREAU MOTOR VEHICLE ACCIDENTS - 1960

	<u>No. of Accidents</u>	<u>Mileage</u>	<u>Accident Rate</u>
Alaska District	1	66,590	1.50
Denver Office	1	92,688	1.08
Region 1	10	5,835,394	0.17
Region 2	18	5,358,447	0.34
Region 3	6	2,191,302	0.27
Region 4	4	3,564,715	0.11
Region 5	14	2,943,341	0.48
Region 6	5	4,242,048	0.12
Region 7	<u>16</u>	<u>3,978,628</u>	<u>0.40</u>
BUREAU TOTAL	75	28,273,153	0.265



INSTRUCTIONS

USE THIS FORM TO CONSOLIDATE ALL BUREAU ACCIDENTS REPORTED IN COMPLIANCE WITH 365 DM 4. REFER TO THE REVERSE SIDE FOR DETAILED INSTRUCTIONS.

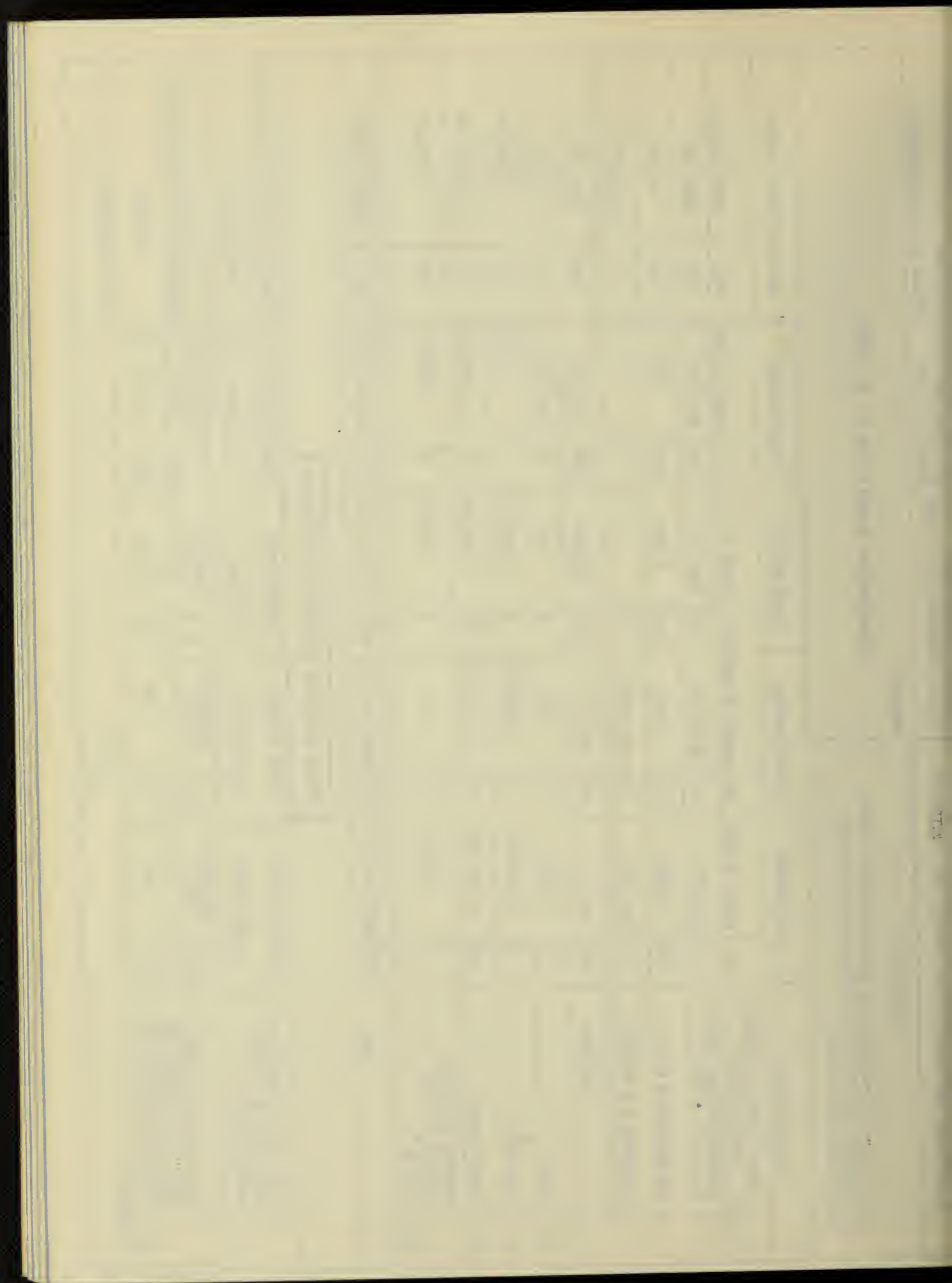
REMARKS:

Cumulative totals for C. Y. 1960

ITEM	PERIOD REPORTED	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL TO DATE	
		NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS
1.	INJURY OR DAMAGE INCURRED FROM ACCIDENTS	47	\$20,774	49	\$21,658	56	\$24,752	31	\$13,702	183	\$80,886
	WORK INJURIES AND LOSS AV. DISABLING X \$ 442										
	NON DISABLING X \$ 9	136	1,224	135	1,215	138	1,242	105	945	514	4,626
	FATALITIES X \$ 42,975	1	42,975	4	171,900	0	-	0	-	5	214,875
	SUB TOTAL	184	64,973	188	194,773	194	25,994	136	14,647	702	300,387
2.	FIRES	5	1,465	1	525	2	745	3	23,250	11	25,985
3.	TORT CLAIMS	5	2,120.85	2	3,692.51	5	1,502.01	1	37.10	13	7,352.47
4.	MOTOR VEHICLES	26	11,429.22	19	13,161.11	18	5,909.74	12	2,457.23	75	32,957.30
5.	PROPERTY DAMAGE NOT INCLUDED IN ITEMS 2, 3, & 4	3	456.16	1	50	3	186.35	5	882.52	12	1,575.03
6.	TOTAL	223	\$80,444.23	211	\$212,201.62	222	\$34,337.10	157	\$41,273.85	813	\$368,256.80

MOTOR VEHICLE ACCIDENT EXPERIENCE

ITEM	TOTAL MILES DRIVEN USING GOVT. OWNED OR LEASED MOTOR VEHICLES	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL OF MILES DRIVEN	
		NO.	FREQUENCY RATE	NO.	FREQUENCY RATE	NO.	FREQUENCY RATE	NO.	FREQUENCY RATE		
7.		5,587,581		7,900,673		7,765,453		7,019,446		28,273,153	
8.	MOTOR VEHICLE ACCIDENT RATE: NO. OF REPORTABLE MOTOR VEHICLE ACCIDENTS PER 100,000 MILES DRIVEN	26	0.46	19	0.24	18	0.23	12	0.17	0.265	
SIGNATURE		TITLE				DATE OF SUBMISSION					



LOST TIME ACCIDENT SUMMARY

GOVERNMENT FORCES

January through December 1960

Final Summary for Calendar Year 1960

Final Summary for Calendar Year 1960																													
REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																			
						ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST - CHEMICALS - GASES	HANDLING MATERIAL	FALLING OBJECTS	FALLS OF PERSONS	JUMPING TO OR FROM PLACES	STRICKEN AGAINST MATERIAL	SLIPPING - TRIPPING - PARTICLES	HAND TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED
			THIS YEAR TO DATE	LAST YEAR (1959)		THIS YEAR TO DATE	LAST YEAR (1959)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Washington Office	225	455,432				0.0	0.0	0	0																				
Denver Office and Laboratories	1,260	2,550,992	4		27	1.6	2.4	10	41							1		2										4	
Alaska District	41	82,219	3		20	36.5	38.5	243	388																			3	
REGION 1																													
Boise Regional Office	234	429,997	1		2	2.3	6.8	5	9																			1	
Central Snake Projects Office	49	93,065	2		72	21.5	22.4	774	235																			2	
Chief Joseph Dam Project	21	38,051				0.0	0.0	0	0																				
Columbia Basin Project	876	1,781,392	22		161	12.3	13.2	90	134							6	3	4		2			2	1	2			22	
Crooked River Project	33	67,703				0.0	16.1	0	468																				
Hungry Horse Project Office	58	121,829	2		7	16.4	15.3	57	24																				
Minidoka Project	196	261,344	4		14	11.1	12.6	39	60																				
Rogue River Basin Project	78	162,445	1			6.1	21.8	12	54																				
Yakima Project	97	173,544	6		198	34.6	15.4	1,141	149							1													
Totals and Averages	1,642	3,229,370	38		456	11.8	13.2	141	111																			6	
REGION 2																													
Sacramento Regional Office	455	922,728	1		198	1.1	3.3	214	25																			1	
Folsom	78	161,742				0.0	0.0	0	0																				
Fresno	150	305,228	1		38	3.3	16.5	124	555																			1	
Shasta Dam	121	246,836	3		221	12.1	3.7	895	96																			1	
Tracy	186	382,364				0.0	0.0	0	0																				
Distribution System Projects Office	38	80,394				0.0	0.0	0	0																				
El Dorado Project Office	53	110,088	3	1	6,096	27.2	--	55,374	--																			1	
Klamath Project	40	84,016				0.0	0.0	0	0																				
Lahontan Basin Office	47	98,691	1		12	10.1	48.9	121	195																			1	
Sacramento Valley Canals Office	11	17,514				0.0	0.0	0	0																				
Trinity River Div., CVP Construction Office	276	564,352	6		318	10.6	14.9	563	264							2				2								6	
Ventura River Project	1	3,792				0.0	8.3	0	17																				
Totals and Averages	1,458	2,977,745	15	1	6,883	5.0	6.4	2,311	123																				
REGION 3																													
Boulder Regional Office	127	258,640	1		2	3.9	0.0	8	0																			1	
Boulder Canyon Project	159	327,228	10		657	30.5	21.7	2,008	1,184							1	5											10	
Colorado River FW&LS Project	120	218,653	12		210	54.9	35.7	960	727																			12	
Parker-Davis Project	262	554,282	6		107	10.8	15.4	193	10,516																			6	
Yuma Projects Office	125	239,226	9		60	37.6	32.1	251	70																			9	
Totals and Averages	793	1,598,029	38		1,036	23.8	20.1	648	4,085							1				1								5	
REGION 4																													
Salt Lake Regional Office	243	507,904				0.0	0.0	0	0																				
Central Utah Projects Office	118	240,234	3		20	12.5	0.0	83	0																				
Fleming Gorge Unit, CRSP	102	190,346				0.0	0.0	0	0																				
Glen Canyon Unit, CRSP	246	513,800	3	1	6,014	5.8	4.6	11,705	102																				
Navajo Unit, CRSP	57	137,368	2		57	14.5	8.2	415	33																			2	
Transmission System Office, CRSP	35	71,940	1		2	13.9	44.4	28	178																				
Durango Projects Office	58	119,997	1		2	8.3	23.1	17	150																			1	
Grand Junction Office	163	243,598	3		150	8.7	17.7	436	289																			1	
Logan Area Office	12	25,238			9	39.6	0.0	35	0																				
Upper Green River Office	65	134,897	2		7	14.2	15.3	52	46																				
Weber Basin Project	142	302,290	3		48	9.9	6.9	159	168																			2	
Totals and Averages	1,241	2,587,612	19	1	6,309	7.3	6.8	2,438	92							1				1								3	
REGION 5																													
Amarillo Regional Office	181	334,204	2		4	6.0	0.0	12	0																				
Albuquerque Project Office	327	604,177	21		327	34.7	32.0	541	798																			2	
Lower Rio Grande Rehab. Project	50	106,207				0.0	0.0	0	0																				
Rio Grande Project	276	606,976	21		142	34.6	17.0	234	124																				
San Angelo Project	72	149,106	1		1	6.7	60.5	1	696																				
San Luis Valley Project	2	4,213				0.0	0.0	0	0																				
Washita Basin Project	96	200,820				0.0	9.0	0	327																				
Totals and Averages	1,004	2,005,703	45		474	22.4	18.4	236	383																				
REGION 6																													
Billings Regional Office	175	326,769	2		49	6.1	0.0	150	0																				
Big Horn Project Office	8	17,152				0.0	18.3	0	284																				
Canyon Ferry Project Office	20	44,947	1		8	22.2	0.0	178	0																				
East Bench Project Office	26	49,251				0.0	--	0	--																				
Fort Peck Project	38	69,505				0.0	13.4	0	94																				
Helena Valley Project Office	27	45,152	1		6	22.1	11.9	133	191																				
Lower Missouri Power Project Office	9	5,160				0.0	--	0	--																				
Missouri-Dane Projects Office	187	364,717	2		4	5.5	5.6	11	29																				
Missouri-Souris Projects Office	176	343,188	1		21	8.7	2.6	90	21																				
Owl Creek Project Office	15	30,757				0.0	0.0	0	0																				
Power System Operations Office	35	74,640				0.0	--	0	--																				
Riverton Project	28	52,292	1		47	19.1	0.0	899	0																				
Upper Missouri Projects Office	75	138,125	4		132	29.0	9.9	956	178																				
Yellowtail Project Unit, MRBP	22	12,000				0.0	--	0	--																				
Totals and Averages	844	1,573,655	14		277	8.9	5.7	176	71																				
REGION 7																													
Denver Regional Office	157	315,896				0.0	2.8	0	407																				
Ainsworth Project Office	24	20,858				0.0	--	0	--																				
Denver Development Office	23	23,344				0.0	--	0	--																				
Farwell Project	106	223,630				0.0	0.0	0	0																				
Kansas River Projects	326	661,420				0.0	4.7	0	25																				
Niobrara-Lower Platte Project Office	61	100,452	1			10.0	--	30	--																				
Niobrara River Office	9	1,895				0.0	11.8	0	35																				
North Platte River Projects	304	631,920	6	3	18,030	9.5	3.2	28,532	46																				

* FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION
LOST TIME ACCIDENT SUMMARY

CONTRACTOR FORCES
January through December 1960

Final Summary for Calendar Year 1960

[illegible]

*FATALITIES INCLUDED IN TOTAL DISABLING

A GOOD NIGHT'S



Means

A SAFER DAY'S WORK

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

SAFETY RECORD



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FIRST QUARTER 1961



OFFICE OF THE ASSISTANT COMMISSIONER
AND CHIEF ENGINEER
DENVER, COLORADO

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Front Cover Photo: Glen Canyon Unit. View of progress in the powerplant and dam from the downstream cofferdam. Sections of the four river outlets at right. Reclamation photo by A. E. Turner. P 557-420-05843.

SAFETY RECORD is published quarterly by the Safety Branch, Division of Construction, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

FIRST QUARTER 1961 ACCIDENT RECORD

For the first quarter 1961, Bureau forces had a frequency rate of 10.2 and a severity rate of 126. There were no fatalities. This compares with a frequency rate of 9.6 and a severity of 1,732 for the past CY 1960. Of the total of 51 lost-time accidents this quarter, handling material or equipment accounted for 39.2 percent. Falls of persons amounted to 11.8 percent; 9.8 percent were from striking against material, and 7.8 percent caused by machinery. The above four types accounted for 68.6 percent of the total lost-time accidents.

There were 29 motor vehicle accidents for 6,394,565 miles of travel with a frequency rate of 0.45 per 100,000 miles. The 1960 rate was 0.27. First quarter cost of damage to the motor vehicles was estimated as \$8,715.

Four tort claims amounted to a cost of \$85.54. There were no fire or property damage accidents reported during the period.

The contractor forces experienced a frequency rate of 26.0 and a severity rate of 656 during the first quarter 1961. For CY 1960 the frequency was 25.9 and the severity was 9,232. As to the type of accidents in the first quarter, falls of persons accounted for 37.6 percent; handling material or equipment 23.4 percent; and 16.9 percent caused by falling objects. These three types accounted for 77.9 percent of the total lost-time accidents. There were no fatalities during the period.

* * * * *

FIELD NOTES

During the period March 15 through April 15, a series of "Water Safety" schools is being offered to the public. Sixteen mm sound films by the U. S. Bureau of Mines on the techniques of artificial resuscitation will be shown to Bureau and contractor employees, public schools, and community organizations. The films will demonstrate (1) the "Holger-Nielsen" back-pressure arm-lift method, the Silvester method and the Schafer method, and (2) the "Mouth-to-Mouth" and "Mouth-to-Airway" resuscitation for all types of emergency asphyxia cases to restore breathing. The American Red Cross has furnished a variety of "Water Safety" posters for appropriate display on bulletin boards.

--Kansas River Projects

* * * * *

CAUSES OF WIRE ROPE FAILURE

There are many forms of abuse of wire ropes. The most commonly encountered abuses that cause wire rope failure are:

1. Rope of incorrect size, construction, or grade for the job to be performed.
2. Ropes allowed to drag over obstacles or inefficient rollers causing unnecessary abrasion, distortion of wires and strands, and putting unnecessary stresses on the rope.
3. Rope not properly lubricated and protected from corrosive action.
4. Ropes operating over sheaves and drums of inadequate size thereby bending the rope more than it was designed to withstand.
5. Ropes overwinding or crosswinding on drums, crushing the ropes, and displacing strands and wires.
6. Ropes operating over sheaves and drums out of alinement forcing the rope to bear on flanges with resulting destructive friction.
7. Ropes operating over sheaves and drums with improper fitting grooves or broken flanges.
8. Ropes permitted to jump out of sheaves.
9. Ropes subjected to moisture or acid fumes.
10. Ropes with improperly attached fittings, or an insufficient number of fittings.
11. Ropes permitted to untwist, thereby spoiling the distribution of the load in the wires and strands.
12. Ropes permitted to kink due to improper care when not actually in use.
13. Ropes destroyed by internal wear caused by grit penetration between strands and wires.
14. Ropes subject to excessive heat with resulting annealing action.
15. Ropes subject to severe overloads due to inefficient operation.

Improper use, insulation, and maintenance of wire rope can not only create hazards, but can be costly as well. The service you obtain from wire rope can be lengthened considerably by assuring that the right rope always is used on each job, that it is installed in the proper manner, and is maintained carefully.

--Walter S. Kuta, Sales Representative,
American Steel and Wire Division,
U. S. Steel Corporation, Pittsburgh,
Pennsylvania

EPOXY RESINS - SAFETY PRECAUTIONS

Epoxy resins are chemical materials which, when properly applied in concrete construction and repair, can be used to bond fresh portland cement mortar or concrete to hardened concrete; to bond hardened concrete to hardened concrete; or when filled with an inert material, to patch, fill, or repair broken, eroded, or damaged concrete surfaces. Certain epoxy compounds are applicable as surface treatments, as crack and joint sealers or fillers, as grout, and for bonding dissimilar materials to concrete.

The epoxy resin compounds are chemical materials with which certain necessary safety precautions must be exercised when handled to avoid health problems, since some of the hardeners or catalysts are classed as primary skin irritants. Protective clothing and rubber or plastic gloves should be worn while handling these materials.

Goggles are often necessary to protect the eyes from splash, spray, etc. Special protective barrier creams should be applied to all exposed skin areas if the materials are to be sprayed or handled for any length of time. Spillage and tools should be cleaned immediately so accidental contamination does not occur. Finally, in close locations, adequate ventilation should be provided. The usual safety precautions should be exercised in handling the etching acid solution.

If an epoxy resin should contact the skin, either in compound or mixed forms, it should be removed immediately to minimize the danger. The excess should be removed with a clean dry cloth or paper towel and the area washed thoroughly with soap and water. At least three good soapings are necessary. If water is not readily available, denatured alcohol may be used to remove the contamination; but the area should be washed with soap and water as soon afterwards as possible. Solvents should never be used to remove epoxy resins from the skin, as they transport the contaminant into the skin, thereby increasing the contamination rather than reducing it.

Cured epoxy resins are generally considered innocuous and present no potential danger. However, if grinding operations are necessary, a dust-type respirator should be worn to prevent inhalation of the epoxy dust.

--Release No. 35, Bulletin,
Operation and Maintenance Equip-
ment and Procedures

* * * * *

DRIVER STOPPING DISTANCES

In the past, stopping distance charts included two elements, the distance traveled while the driver acted to stop a vehicle (reaction distance) and the distance traveled by a vehicle after applying the brakes. Now there is another factor to be considered--the distance traveled while the driver recognizes the need for a stop and decides to do something about it. This is called the perception distance and is now accepted as a separate factor equal to the reaction distance. Based on data for "average driver," .75 seconds was used for reaction time. Thus perception time is also .75 seconds. Converted into the number of feet traveled at various speeds, the total of the two equal items shows the perception-reaction distance. To this is added the vehicle stopping distance and the summation gives the total driver stopping distance. The following table gives the driver stopping distances for passenger cars at speeds from 20 to 70 miles per hour.

Passenger Vehicles (Not including Buses)

<u>Speed mph</u>	<u>Perception distance</u>		<u>Reaction distance</u>		<u>Vehicle stopping distance</u>		<u>Total driver stopping distance</u>
20	22	+	22	+	25	=	69 feet
25	28	+	28	+	35	=	91 feet
30	33	+	33	+	48	=	114 feet
35	39	+	39	+	67	=	145 feet
40	44	+	44	+	90	=	178 feet
45	50	+	50	+	117	=	217 feet
50	55	+	55	+	148	=	258 feet
55	61	+	61	+	185	=	307 feet
60	66	+	66	+	228	=	360 feet
65	72	+	72	+	275	=	419 feet
70	77	+	77	+	332	=	486 feet

* * * * *

OFFICE SAFETY

Offices are comparatively safe places to work when a little consideration is given to making the office areas as safe as possible, and by controlling the individual's actions. The following are a few safe practices to follow:

1. Don't run for the elevators. Better yet, don't run in the offices or halls for any reason.
2. Don't read mail or other materials while walking around. You have a desk for that purpose.
3. Maintain an awareness for telephone cords, office machine wires, paper clips, or rubber bands on the floor. The wax paper book match is the devil under a high heel.
4. Swivel chairs are a great catapult when improper consideration is given to them. Remember, they were not designed for reclining.
5. Use handrail on stairways when going down or up. Falling up stairs can be mighty painful. A broken nose, split lip, or lost teeth are common to the latter.
6. Standing and talking in front of the out-swing of closed doors can prove mighty interesting. Conduct your business at your desk.
7. Pushing and crowding on stairs or elevator entrances will eventually cause an injury for sure.
8. Always use the handles when closing desk drawers, files, or safe and vault doors. Those crushed fingers are not only painful but play havoc with the bowling score.
9. Handle sharp or pointed objects with care. Keep scissors, letter openers, and steel erasers in a safe place.
10. When smoking is permitted, make sure you have adequate ashtrays. Do not smoke in vaults, storerooms, or confined areas.
11. Keep file drawers, desk drawers, and locker doors closed when not in active use. Open only one drawer at a time. A loaded file cabinet weighs several hundred pounds and can be quite a pressing matter if you are on the floor under it.

--Region 4 Safety News

CHAIN HOISTS

In some operations, a chain hoist is indispensable and failure of the hoist may cause serious injury or damage.

Chain hoists generally are factory tested to a 50 percent overload and all parts should be maintained at this capacity factor to insure against failure in use. Good maintenance pays dividends in longer life, as well as in giving protection to the user.

The following are some observations and recommended procedures that will make for better chain-hoist operations and safer work conditions.

1. Check the chain links for wear, stretch, or other damage. Damaged links weaken the chain and cause excessive wear to the load sheave.
2. Check the openings of the hooks. If a hook is spread, it has been overloaded or improperly loaded and possibly weakened below the hoist capacity.
3. Check the action of the hoist. If there is excessive pull in both directions, it may mean a bent driving pinion or lack of lubrication.
4. Gradual load slippage during use of a spur-gear-type hoist indicates a worn brake. On worm gear and differential-type chain hoists, a back movement of three or more pockets indicates worn brake parts.
5. When defective parts are found, they should be replaced before the hoist is used again.
6. When positioning a hoist for use, be sure that the supporting structure is strong enough to carry the load that will be raised plus the weight of the hoist. Make sure that both the top and bottom hooks are carrying the load at the hook center and not at the hook tip.
7. Do not abuse a chain hoist. Dropping, rough treatment, or overloading is almost certain to result in damage.

--National Safety Council

* * * * *

YOUR DRIVING MAKES THE DIFFERENCE

"A strange thing about accidents--especially traffic accidents. They happen to the nicest people. Very rarely is an accident the result of maliciousness or even extreme negligence. All it takes is a very slight error in judgment or reaction.

"An Eastern university conducted a study which revealed that most drivers are confronted with no less than 40 decisions which must be made rapidly in every mile of ordinary city traffic. Those are more decisions than a jet pilot has to make, the study said. And at least one decision out of each 40, the study pointed out, is made incorrectly.

"That means that if we drive 5 miles to and from work every day, we are faced with about 2,000 decisions a week which must be made as rapidly as the situations occur. In a week's time at least 50 of these will be wrong.

"If we are lucky, our mistakes are made when other cars or pedestrians are not endangered. If we're not so lucky and 'the other guy' is also making a wrong decision, chances are pretty good that one of us will end up in the hospital or worse.

"The study also discovered that the average driver, you and I, is confronted with 300 distinct traffic situations in every mile he drives.

"The study seems to indicate several things. It boils down to the fact that we should never attempt to drive while our decision-making apparatus is in any way hindered or slowed down."

--Engineering for Safety

* * * * *

DRILLING ACCIDENT

A recent accident occurred to a drilling employee of the Bureau while doing investigations work at a damsite. The injured employee was holding in place a 2-3/8-inch drill pipe in the drill hole while the operator was driving the pipe with a 140-pound steel drive hammer with the use of a rope sling. By an unsafe act, the employee placed both of his hands on top of the pipe drivehead. The descending hammer struck both thumbs resulting in compound fractures. The drill pipe is usually steadied in a plumb position by holding the pipe below the drivehead with the use of the hands. Geology supervisors are presently exploring the feasibility of installing a fixed-metal collar to hold the pipe in place, thereby eliminating the use of the hands to perform this hazardous task. Drill crews should give some thought as to the best method of protecting the employee in such operations.

* * * * *

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and development. It begins with the first settlers who came to the continent in search of a new home. These early pioneers faced many hardships, but they persevered and built a nation that would one day become a world power. The story of the United States is a story of the struggle for freedom and the pursuit of the American dream. It is a story of the men and women who have shaped the course of our nation's history, from the founding fathers to the present day. The history of the United States is a story of the triumph of the human spirit over adversity and the power of unity.

THE FOUNDING FATHERS

The founding fathers of the United States were a group of men who played a crucial role in the creation of the nation. They were men of vision and courage, who believed in the principles of liberty and justice for all. They fought for the rights of the people and established a government that would protect those rights. The founding fathers are remembered for their wisdom and their dedication to the cause of the new nation. Their legacy lives on in the values and principles that guide us today.

INSTRUCTIONS

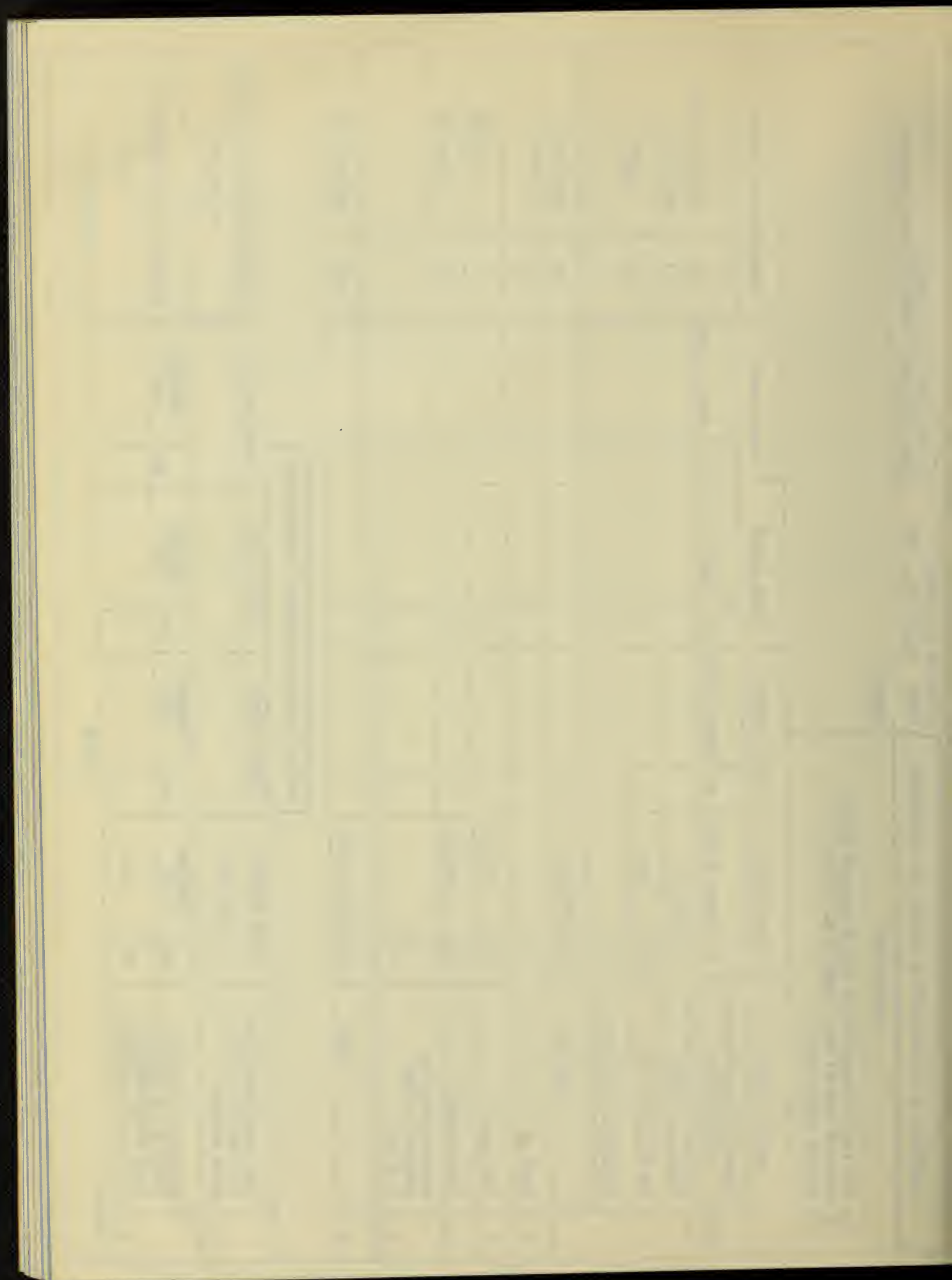
USE THIS FORM TO CONSOLIDATE ALL BUREAU ACCIDENTS REPORTED
IN COMPLIANCE WITH 355 DM 4. REFER TO THE REVERSE SIDE
FOR DETAILED INSTRUCTIONS.

REMARKS:

ITEM	PERIOD REPORTED	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL TO DATE	
		NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS	NO.	AMOUNT OF LOSS
1.	INJURY OR DAMAGE INCURRED FROM ACCIDENTS	51	\$24,531							51	\$24,531
	WORK INJURIES AND LOSS AV. DISABLING X \$ 481	131	1,179							131	1,179
	NON DISABLING X \$ 9	0								0	
	FATALITIES X \$ 44,327										
	SUB TOTAL	182	\$25,710							182	\$25,710
2.	FIRES	0								0	
3.	TORT CLAIMS	4	85.54							4	85.54
4.	MOTOR VEHICLES	29	8,714.84							29	8,714.84
5.	PROPERTY DAMAGE NOT INCLUDED IN ITEMS 2, 3, & 4	0								0	
6.	TOTAL	215	\$34,510.38							215	\$34,510.38

MOTOR VEHICLE ACCIDENT EXPERIENCE

ITEM	TOTAL MILES DRIVEN USING GOVT. OWNED OR LEASED MOTOR VEHICLES	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		CUMULATIVE TOTAL OF MILES DRIVEN	
		NO.	FREQUENCY RATE	NO.	FREQUENCY RATE	NO.	FREQUENCY RATE	NO.	FREQUENCY RATE		
7.		6,394,565								6,394,565	
8.	MOTOR VEHICLE ACCIDENT RATE: NO. OF REPORTABLE MOTOR VEHICLE ACCIDENTS PER 100,000 MILES DRIVEN	29	0.45							0.45	
SIGNATURE				TITLE						DATE OF SUBMISSION	



LOST TIME ACCIDENT SUMMARY

GOVERNMENT FORCES
January through March 1961

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE	SEVERITY RATE	TYPES OF ACCIDENTS - THIS YEAR TO DATE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST-CHEMICALS-GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JUMPING TO OR FROM PLACES	STRUCK AGAINST MATERIAL	FLIPPING PARTICLES	HAND TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED	TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Washington Office	228	114,912				0.0	0.0	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</

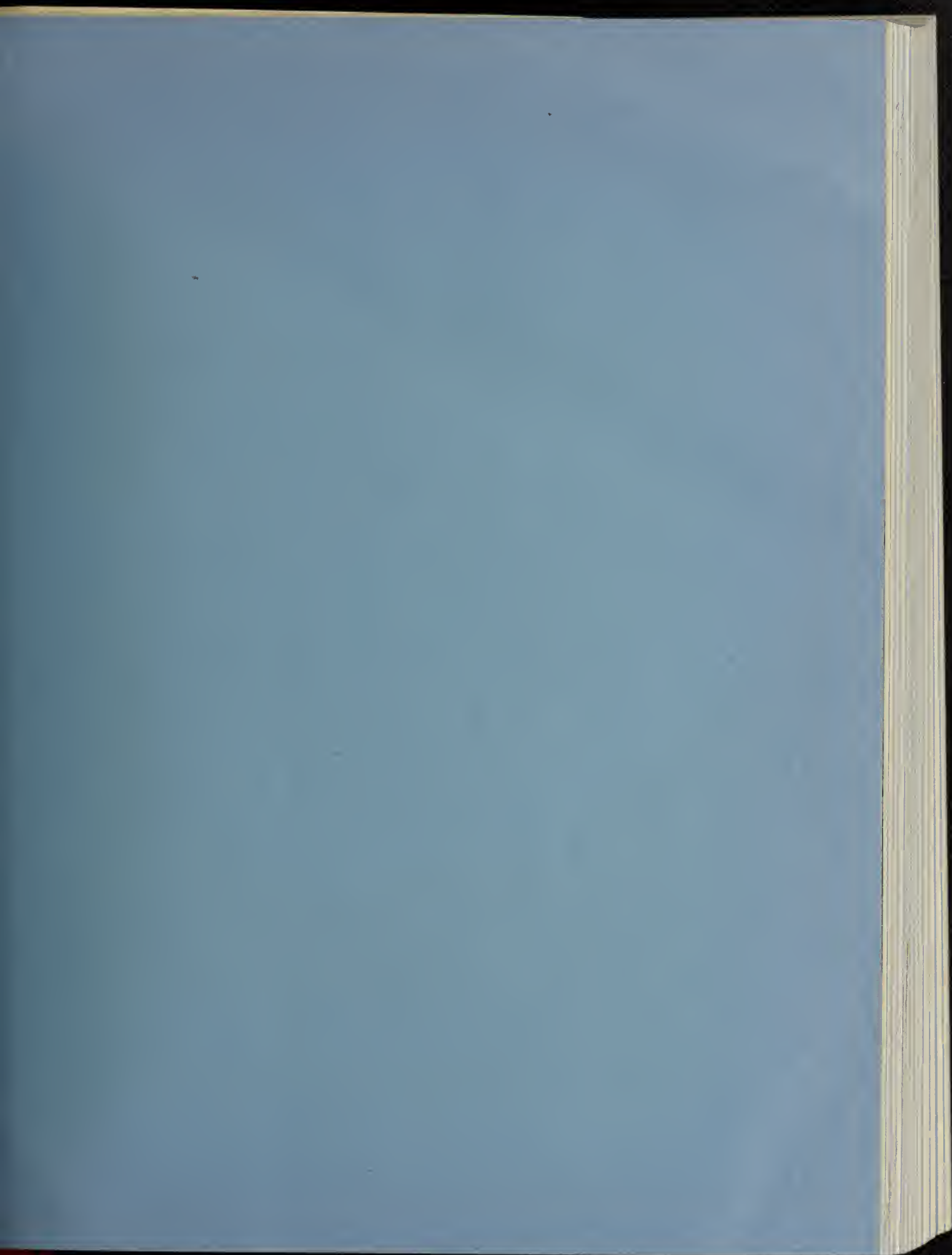
*FATALITIES INCLUDED IN TOTAL DISABLING

LOST TIME ACCIDENT SUMMARY

CONTRACTOR FORCES
January through March 1961

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		OAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																			
						ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	POISONING - GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JAMMING TO OR FROM PLACES	STRUCK AGAINST MATERIAL	FLYING PARTICLES	MAHO TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED
			THIS YEAR TO DATE	LAST YEAR (1960)		THIS YEAR TO DATE	LAST YEAR (1960)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
REGION 1																													
Boise Regional Office	1	1,192				0.0	0.0	0	0																				
Chief Joseph Dam Project	10	4,747				0.0	0.0	0	0																				
Columbia Basin Project	87	34,567				0.0	47.2	0	412																				
Crooked River Project	92	44,022				0.0	26.4	0	172																				
Hungry Horse Project	5	54				0.0	0.0	0	0																				
Madison Project	10	3,716				0.0	0.0	0	0																				
Rogue Project	113	54,518	1		5	18.3	60.6	92	1,491									1									1		
Yakima Project	39	15,866				0.0	0.0	0	0																				
Totals and Averages	357	158,682	1		5	6.3	43.6	31	713																				
REGION 2																													
Sacramento Regional Office	7	728				0.0	0.0	0	0																				
Distribution System Projects Office	23	9,142				0.0	30.8	0	926																				
El Dorado Project Office, CVP	30	12,098	2		21	165.3	90.4	1,736	1,808									2									2		
Trinity River Division, CVP	957	461,887	32		745	69.3	22.8	1,613	9,249								9	9	8		1				1	2	32		
Klamath Project	32	10,977				0.0	0.0	0	0																				
Totals and Averages	1,049	494,832	34		766	68.7	28.1	1,548	8,621																				
REGION 3																													
Boulder Regional Office	6	2,294				0.0	0.0	0	0																				
Boulder Canyon Project	12	5,267				0.0	53.5	0	165,369																				
Colorado River FW&LS Project	9	2,403				0.0	0.0	0	0																				
Parker-Davis Project	14	5,220	1		10	191.6	0.0	1,916	0										1								1		
Yuma Projects Office	207	103,768	2		74	19.3	16.2	713	20,211									1			1						2		
Totals and Averages	248	118,952	3		84	25.2	19.1	706	33,784																				
REGION 4																													
Central Utah Projects Office	48	23,922	2		14	83.6	15.7	585	555									1									2		
Fleming Gorge Unit, CRSP	224	114,439	1		100	8.7	9.5	874	19,173																1		1		
Glen Canyon Unit, CRSP	2,221	1,104,838	17		668	15.4	17.7	605	10,525								1	5	11							17			
Navajo Unit, CRSP	301	152,974				0.0	19.2	0	6,013																				
Grand Junction Office	127	63,018	1		4	15.9	34.8	63	10,158										1								1		
Weber Basin Project	52	22,901				0.0	43.7	0	808																				
Totals and Averages	2,973	1,482,092	21		786	14.2	20.2	520	9,825																				
REGION 5																													
Amarillo Regional Office	19	2,653				0.0	0.0	0	0																				
Albuquerque Project Office	85	42,898				0.0	0.0	0	0																				
Lower Rio Grande Rehab. Project	205	54,319				0.0	51.8	0	822																				
San Angelo Project	343	217,449	13		144	59.8	32.1	662	14,104										4	1	4		1	1	1		13		
Washita Basin Project	242	103,995	1		7	9.6	27.8	67	529										1										
Totals and Averages	894	431,314	14		151	32.4	30.5	350	4,157																				
REGION 6																													
East Branch Project Office	53	22,837				0.0	69.5	0	4,173																				
Missouri-Oahe Projects Office	31	6,866	2		9	291.3	26.6	1,311	240									1							1	2			
Missouri-Souris Projects Office	88	34,960	1		60	28.6	46.0	1,716	15,291											1							1		
Riverton Project	20	6,265				0.0	0.0	0	0																				
Upper Missouri Projects Office	4	959				0.0	0.0	0	0																				
Yellowtail Project Office	23	6,988				0.0	0.0	0	0																				
Totals and Averages	219	78,875	3		69	38.0	34.7	875	17,221																				
REGION 7																													
Kansas River Projects	204	101,801				0.0	12.1	0	134																				
Nicholls-Lower Platte Projects Office	140	72,093	1		80	13.9	0.0	1,110	0																1	1			
North Platte River Projects	51	21,397				0.0	56.4	0	17,561																				
South Platte River Projects	2	302				0.0	0.0	0	0																				
Totals and Averages	397	195,593	1		80	5.1	27.8	409	5,647																				

*FATALITIES INCLUDED IN TOTAL DISABLING





**A GOOD THING
TO KEEP IN MIND**

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UNITED STATES
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BUREAU OF RECLAMATION

SAFETY RECORD



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Front Cover Photo: Flaming Gorge Unit. Sign with red blinker is placed at intersection where aggregate trucks enter the access road. Reclamation photo by F. B. Slote. P591-421-3077.

SAFETY RECORD is published quarterly by the Office of the Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention,

FIRST HALF 1961 ACCIDENT RECORD

For the first half of 1961, Bureau forces had a frequency rate of 9.3 and a severity rate of 726. There was one fatality. This compares with a frequency rate of 9.6 and a severity rate of 1,732 for the CY 1960. Of the total of 96 lost-time accidents during the 6-month period of 1961, handling material or equipment accounted for 35.4 percent. Falls of persons amounted to 16.7 percent; hand tools 8.3; and striking against material 5.2 percent. The above four types of accidents accounted for 65.6 percent of the total lost-time injuries.

During the first 6 months of 1961 there were 54 motor vehicle accidents for 15,293,554 miles of travel with a frequency rate of 0.35 per 100,000 miles. The 1960 rate was 0.27. Cost of damage to the motor vehicles was estimated at \$12,643.

Ten tort claims amounted to a cost of \$1,464. There was one fire with estimated damage of \$1,000.

The contractor forces experienced a frequency rate of 26.7 and a severity of 5,646 for the 6-month period of 1961. This shows an increase of 3.1 percent over the 25.9 frequency for 1960. There were a total of five fatalities during the period. As to the type of accidents in the first half of 1961, falls of persons accounted for 28.3 percent; handling material or equipment 20.6 percent; falling objects 14.7; and vehicles 8.2 percent. These four types accounted for 71.8 percent of the total lost-time accidents.

* * * * *

BUREAU RECEIVES ANNUAL FLEET SAFETY AWARD

The Department of the Interior Annual Fleet Safety Award was presented to the Bureau of Reclamation for the second straight year. The motor vehicle accident rate of 0.27, the lowest of any bureau in the Department, was for each 100,000 miles of driving while on official business. The total mileage traveled was 28,273,153 with a total of 75 accidents. Congratulations to all Bureau drivers who made this outstanding record possible.

* * * * *

REVISIONS IN THE BUREAU SAFETY PROGRAM

(Excerpts from the Assistant Commissioner and Chief Engineer's letter of June 1, 1961)

1. Safety Meetings (Refer to Par. 365.2 of the Bureau Manual)

a. Bureau Supervisory Personnel:

All operating offices of the Bureau shall hold supervisor's safety meetings at least once a month. Every supervisor of Bureau personnel, excluding office and clerical personnel, shall attend at least one such meeting a month. These meetings are to be devoted to a review of the previous month's accident experience, discussion of specific hazards, a review of the pertinent provisions of the Bureau Safety Manual, etc. Minutes of the meeting are to be submitted to the Regional Director, indicating compliance.

b. On-the-job ("toolbox") Safety Meetings:

Every supervisor of Bureau field employees (surveyors, inspectors, force account, and O&M personnel) shall be required to conduct a weekly 5-minute, "on-the-job" safety meeting, preferably at the beginning of his shift each Monday.

The meetings shall be utilized by the field supervisor to discuss safety and to instruct his crew in safe practices required to safely perform their assigned duties.

It may also be utilized to check safety equipment, review the past week's accident experience, etc.

Safety officers in the field will assist in providing material for these meetings. Adequate reporting procedures should be established for reporting attendance in order to insure the field operating head of compliance.

2. Safety and First-aid Training:

a. Instruction to New Employees:

A 1-page written directive containing pertinent Bureau and project safety provisions shall be issued to each new employee as part of his or her indoctrination.

b. First-aid Training (Re 365.2.3 of the Bureau Manual):

Every supervisor of Bureau field personnel (surveyors, inspectors, operation and maintenance, and force account personnel) shall complete an approved course in first-aid training. Field supervisors are requested to arrange for this training through either the Bureau of Mines or the American Red Cross.

Successful completion of an approved course in first aid to be noted in the supervisor's personnel folder, and considered in appraising his job qualification.

c. S. T. A. - "Safety To Every Task Assigned":

Through the media of safety meetings and job safety releases, every effort shall be made to impress Bureau field supervisors with the necessity of including consideration for safety in instructions to their crews. "S. T. A." merely provides that when a supervisor assigns a task to an employee he also instructs the employee how to perform the task safely.

3. Contractor Forces

a. Continue to utilize preconstruction safety meetings to acquaint all contractors with basic job safety requirements; particularly with the provisions of the contract specifications dealing with health and safety. All construction contractors shall be requested to submit a proposed safety program to the contracting officer's representative for approval prior to start of operations.

b. On all major construction projects provision shall be made for a monthly meeting of a joint Safety Policy Committee composed of Bureau and contractor supervisory personnel. These meetings, attended by both the contractor's project manager and the contracting officer's representative, will be utilized to review the contractor's accident experience, compliance with contractual safety provisions, and to discuss the effectiveness of his safety program.

* * * * *

WATER TRUCK ACCIDENT

The operator was driving a loaded 3,850-gallon water truck up a temporary earth ramp preparatory to use on the embankment fill of a dam. The ramp was 30 to 40 feet in width and was on a 12 percent grade with the bottom one-third of the ramp on a curve.

There were no witnesses to the contractor accident that followed. However, tire marks indicate the water truck stalled about two-thirds of the way up the ramp. At that point the rear wheels of the tractor unit left a rubber burn mark indicating the motor probably stalled. Either the brakes were inadequate to hold the loaded truck on the slope or the air supply was exhausted. In any event, the truck rolled back and at the curve in the ramp, it rolled off and flipped over end for end. The driver was thrown off the machine with the tractor unit falling on him.

It can only be conjectured as to what happened causing the truck to roll back down the ramp and off the edge. Possible causes are:

1. Driver missed a gear in shifting to a lower gear; brakes were not adequate to hold the truck.
2. Engine stalled and driver unable to get it started immediately.
3. Driver was making his first trip up this particular ramp. He had driven this type vehicle in the past but not recently.

Recommendations

1. Instruct drivers of water trucks to shift into low gear at the bottom of steep ramps.
2. The brakes on all water trucks should be adequate to hold the loaded truck on the steepest grade they are required to use.

* * * * *

THINK

Always know what you are doing. It only takes a little thought. Never plunge headlong into a job without knowing the hazards of that particular job and the methods of protecting yourself against those hazards.

* * * * *

MAINTAINING A SOUND ATTITUDE TOWARD SAFETY

Remarks by F. M. Clinton, Regional Director, Bureau of Reclamation, Region 4, before the Ninth Annual Region 4 Safety Conference, at Salt Lake City, Utah, on March 16, 1961

Before I get started, I want to be certain that everyone has his seat belt fastened. This safety conference is the last place we want anyone to get hurt. I read in the newspaper recently that some of the automobile manufacturers will equip their 1962 model cars with hooks, or loops, or something of the sort so that seat belts will be cheaper and easier for the purchaser to install. Maybe the next thing will be seat belts for chairs at luncheons so that the happily filled listeners who doze off will be firmly secured. And, we might even get seat belts in our Government cars someday, too. Maybe I'm talking out of turn here, but I gather that there isn't much question any more about the value of seat belts in cars. But I also observe that darn few people have them in their cars.

I want to welcome all of you to this Annual Safety Conference. Our safety program is certainly a vital part of our larger Reclamation program. This is demonstrated very well by simply taking a look at who is here today. This is not just a meeting of safety engineers who are getting together to hash over their particular problems, although I expect there will be some of that go on. I am told that there are 5 full-time and another 8 part-time safety engineers here; but there must be a total of 40 or 45 people here. Who are the others? Well, they are people who have a real interest in and responsibility for safety on Reclamation jobs. There are Project Construction Engineers, Field Engineers, Office Engineers, and others, including one Regional Director and two Assistant Regional Directors. What does this wide attendance mean? It means that we recognize that the safety program is the business of all of us--those who are safety engineers and those of us in the various levels of management who must and do take part in the effort necessary to achieve a functioning and improving safety program.

There are several kinds of safety programs. Highway safety programs are organized and pursued on a nationwide basis by the National Safety Council. And state and local officials actively support that program. Also, there is now a very worthwhile Home Safety program in which the schools, PTA's, and many civic organizations take part. We have undertaken in cooperation with the American Red Cross a water safety program aimed at reducing the drownings in irrigation canals, reservoirs, and other manmade waterways. I understand it is being called "Operation Westwide," and I'm all for it as a needed effort.

All of these safety programs are aimed at the general public. All must, therefore, use the advertising approach on posters and billboards, in magazines and newspapers, and on radio and television. All seek to bring about a safety consciousness--an awareness--a new attitude toward safety among people in general.

Our Bureau of Reclamation safety program is quite different in approach, but aims at developing sound attitudes toward safety, as it must if it is to get results. Unlike nearly all other Federal agencies, the Bureau of Reclamation is directly concerned with heavy construction. Working with our private contractors, we are able to bring the safety program directly to the individual workers on the job.

Our safety or accident prevention activities are directed toward specific operations on the job and the specific groups of people concerned. We have the opportunity to get to know the special safety problems involved in these types of activities and even to some extent the type of people who follow heavy construction work. This affords us the opportunity to get close to them and to work toward the development of a sound attitude toward safety in them.

Too many times I have heard an accident defined as someone getting hurt. I believe that the association of the word "accident" with personal injury is all too common. Study has shown that only 0.3 of 1 percent of all accidents result in a major injury; that less than 9 percent of all accidents produce minor injuries; and that more than 90 percent of all accidents produce no injuries! The conclusion to be drawn is clear. We should concentrate on reducing this 90 percent and that accidents, not injuries, must be our point of attack. In short, if we can reduce the number of accidents, we will reduce the number of injuries to employees and the economic loss incident to both injuries and equipment damage. This is one reason I like to think of our safety program as an "accident prevention" program.

A review of injuries caused by accidents in Region 4 during the past 2 years discloses that the major portion resulted from unsafe acts of employees which resulted from a lack of sound safety attitudes on the part of the employees. The need is obviously for more effective educational training directed toward developing correct attitudes. It is generally accepted that from 88 to 92 percent of all accidents resulting in injury occur because of human error. That is, an unsafe act on the part of an individual involved.

We attempt to minimize accidents resulting from unsafe acts primarily by developing the attitude of safety-mindedness in people. No matter how positive and specific the educational training, and no matter how safe physical conditions may be, we must admit that there will always be a few occasions when there is a lapse in the attitude of safety. Who can determine, for example, why a man walked into a backing dump-truck and sustained fatal injuries? Or why an employee drove his car through an intersection of an arterial highway right in front of an oncoming truck, causing an accident which resulted in fatal injuries to himself?

But what about the more routine types of accidents? In Region 4 we have placed a great deal of emphasis upon "toolbox safety meetings" as the truly effective device for putting across safe practices on the job and for instilling sound safety attitudes. Most of our contractors have made effective use of these toolbox safety meetings. I have been informed that Merritt-Chapman & Scott Corporation, the prime contractor constructing Glen Canyon Dam, has improved its accident experience with a savings of \$400,000 through a reduction in insurance rates.

A review of the accident frequency rate for Bureau employees in Region 4 for calendar year 1960 would indicate that more use of toolbox safety meetings for Government employees should be undertaken. We must take a long and hard look at our safety record in the light of Public Law 86-767 approved by the Congress on September 13, 1960. This law provides for reimbursement of medical and compensation costs by each operating Federal agency to the Bureau of Employees Compensation of the Department of Labor. We can expect that, upon receipt of instructions from the Budget Bureau, it will be necessary for us to include in our annual budget estimates for each fiscal year a request for the appropriation of an amount to cover the anticipated medical and compensation costs incurred by Bureau employees. Thus, in addition to the humane aspect of our accident prevention program, in which we attempt to minimize pain and anguish of our employees and their dependents, we must now take a good straight look at the dollar costs of injuries resulting from occupational accidents or illnesses.

No matter how we size up the problems involved in accident prevention, we must admit that the Bureau safety engineers have a very tough and very important job. The safety engineer is the butt of many jokes that he must take in stride. Like the one about the wife who told her new neighbor that her husband was a safety engineer. When her neighbor asked what a safety engineer did, she replied, "Well, it's difficult to explain, but if we wives did it, they'd call it 'nagging.'" There is a certain amount of truth in this story. You safety engineers are our "conscience"--the man who figuratively sits on our shoulder and says, "You shouldn't do it that way."

There are those, I am sure, who consider the safety engineer as a guy who is just another egghead or crusader. But I am not one of them. The plain fact is that safety engineers save lives and human suffering from injuries even though no one can say how many times or when or under what circumstances that he has done so. Not often is he gratified by immediate reward for his efforts. But we know he is on the job, and doing well a job that needs to be done.

* * * * *

HOW ACCIDENTS ARE CAUSED - MOTOR CRANE BOOM

A contractor employee working as a laborer on a concrete placing crew was fatally injured when struck by a falling crane boom. Concrete was being placed in the forms for a gate chamber structure with a crane and concrete bucket. The motor crane, with a 100-foot boom, was lowering the bucket over the forms, when the cable which supports the boom broke. The boom and bucket fell onto the forms. The laborer was struck on the head by the falling boom and received fatal injuries.

The boom angle at the time of the cable failure was about 15° above the horizontal and the total load weight was 7,100 pounds. As a result of the overloading, the boom cable failed allowing the boom to drop. Examination of the cable following the accident showed it to be somewhat worn. The cause of this accident was the result of (1) exceeding the load limits of the crane as set forth by the manufacturer, and (2) the worn condition of the boom cable.

The investigating committee recommended the following preventative measures:

1. Operate all cranes within the manufacturer's load limits.
2. A table showing load limit at varying boom angles for all cranes on the job will be given to all foremen and inspectors in order to prevent future overloading.
3. Replace cables on hoisting equipment more often.
4. Keep all workmen from under the boom when booming up or down.

* * * * *

EVERY ACCIDENT IS A NOTICE THAT SOMETHING IS
WRONG WITH MEN, METHODS, OR MATERIALS

* * * * *

SAFE HANDLING OF AQUALIN HERBICIDE

Aqualin is a water-soluble formulation, containing 85 percent acrolein as the principal chemical, used for the control of weeds and algae in irrigation canals. It is being used on some of our projects for this purpose. Aqualin herbicide is a flammable highly toxic material which is intensely irritating to the eyes, respiratory tract, and the skin. It can be safely used in controlling aquatic weeds provided these properties are considered in its handling. Listed below are important safety measures that will minimize the possible hazards of applying Aqualin herbicide and which will allow its use without harm:

1. The warning statements given on the product label should be read and observed.
2. Only the prescribed dosage (less than 50 ppm) should be used.
3. Do not allow Aqualin herbicide to contact containers or equipment previously used for aqua ammonia, alkalies, or acids.
4. Applicators must abide by the following personal safety rules:
 - a. Wear clean protective clothing and suitable face protection (either a face shield or safety goggles).
 - b. If liquid comes in contact with the skin, wash the affected area thoroughly with plenty of water; remove contaminated clothing.
 - c. Wash hands before eating or smoking.
 - d. At the end of each work day, bathe or take a shower and change to clean clothing.
5. Before applying Aqualin herbicide, the following items should be considered:
 - a. Check all equipment to make sure it is in good operating condition and free from leakage.
 - b. Be sure that all valves and other fittings remain tight and operate properly. Stem-type gate valves should be used - not stopcocks or plug-type valves.
6. When applying Aqualin, the following items should be heeded:
 - a. Open drums only outdoors or in rooms that are well ventilated.

- b. Position pump near or in canal or body of water to be treated.
 - c. Stand upwind with face protection in place.
 - d. Meter directly from the shipping drum into application equipment.
 - e. Open drums cautiously.
 - f. Be sure the air inlet and shutoff valves are closed before positioning drums.
 - g. Recheck all fittings and valves after positioning drums.
 - h. Check pressures after pump is put in operation.
 - i. Open air inlet cautiously.
 - j. Do not allow Aqualin herbicide to get on clothing or on any part of the body.
7. After applying Aqualin, the following measures should be taken:
- a. Flush the pumps, meters, hoses, tanks, etc., used thoroughly with fresh water.
 - b. Dispose of extra or waste Aqualin herbicide into a large stream or canal by the regular application method.
 - c. Store drums of Aqualin herbicide in a safe, ventilated, shaded place away from heat or fire.
 - d. When the drum is empty, flush it with copious amounts of clean water. Do not use caustic.

--Shell Chemical Co.

* * * * *

HOW ACCIDENTS ARE CAUSED - AGGREGATE HOPPER

A recent accident on a contract operation involving an aggregate hopper caused the death of a laborer. At the time the trucks had stopped dumping into the hopper. The employees were preparing to empty the hopper so that a worn liner plate could be replaced. The liner plates are exposed to considerable wear and have to be replaced quite frequently.

The hopper was initially emptied but it was found necessary to start the grizzly again as there was more aggregate on the sides of the hopper. After this was done, an employee entered the enclosure at the bottom of the hopper and saw the laborer's feet protruding from the hopper indicating that he had attempted to crawl inside when the aggregate fell on him. About 2 yards of aggregate either fell from the side of the hopper as he was crawling in or was caused to fall by the vibrator which is used to shake down the material. The victim was removed and artificial respiration was started immediately and continued in the ambulance on the way to the hospital. However, he was pronounced dead by suffocation.

It was customary to use the vibrator to shake down any material in order to clear the sides of the hopper. The switch for this vibrator was on the top where the dumpman could see when the hopper was not clean. It was also part of their procedure for employees to check with the dumpman on top to find out if the hopper was clear before entering at the bottom. Apparently the laborer failed to take proper precautions by not getting the proper safe clearance before entering the hopper.

It was recommended that:

1. Each section of the contractors' operations make a check as to the effectiveness of safe clearance and lockout or tagout procedures which have been set up as a part of the work. Such procedures must be rigidly followed in all cases by those concerned. Review of such regulations should be the subject of toolbox safety meetings.

* * * * *

Safety and efficiency that result from orderliness actually depend on the day-to-day job neatness of the employees working on the job, rather than on spasmodic cleanup drives.

* * * * *

ACCIDENT ON TUNNEL OPERATION

Recently an accident occurred on contract operations and a miner was fatally injured when run over by a truck hauling muck from a tunnel. The report indicated the accident happened in the following manner.

In the usual operation, a 7-yard truck (end dump) had been loaded at the heading and was backing out along the tunnel. The backup light was on with the backup horn blowing. Three miners were walking in single file along the left side of the tunnel on the way towards the outlet end. This was on the opposite side from the driver's seat. There was no set rule as to which side was the walking side. The truck continued to back up past the men as they had stopped and stepped close to the side of the tunnel. One of the miners (not the victim) shouted and the driver stopped the truck but not before it had run over and fatally injured the miner. There were no eye witnesses to the actual happening. Therefore, it is not known just how he came to be in the direct path of the rear wheels. The victim could have slipped and fell or he may have started to move out before the truck was past. The tunnel is 21 feet in width and the truck is 8 feet wide.

The following safety rules were established by the contractor as measures to prevent similar accidents:

1. The walking side of the tunnel will be the left side looking into the tunnel from the outlet end. This places the walker on the driver's side of the truck.
2. When a moving truck approaches, all personnel walking in the tunnel will step to the wall on the walking side and stop until the truck has passed.
3. Reflecting tape will be placed on the back of all employees' hats.
4. Cap lamps must be worn by all personnel entering the tunnel.
5. There will be no one in the tunnel when trucks are running except those who have a specific job to do.

* * * * *

The chains of habit are generally too small to be felt until they are too strong to be broken.

* * * * *

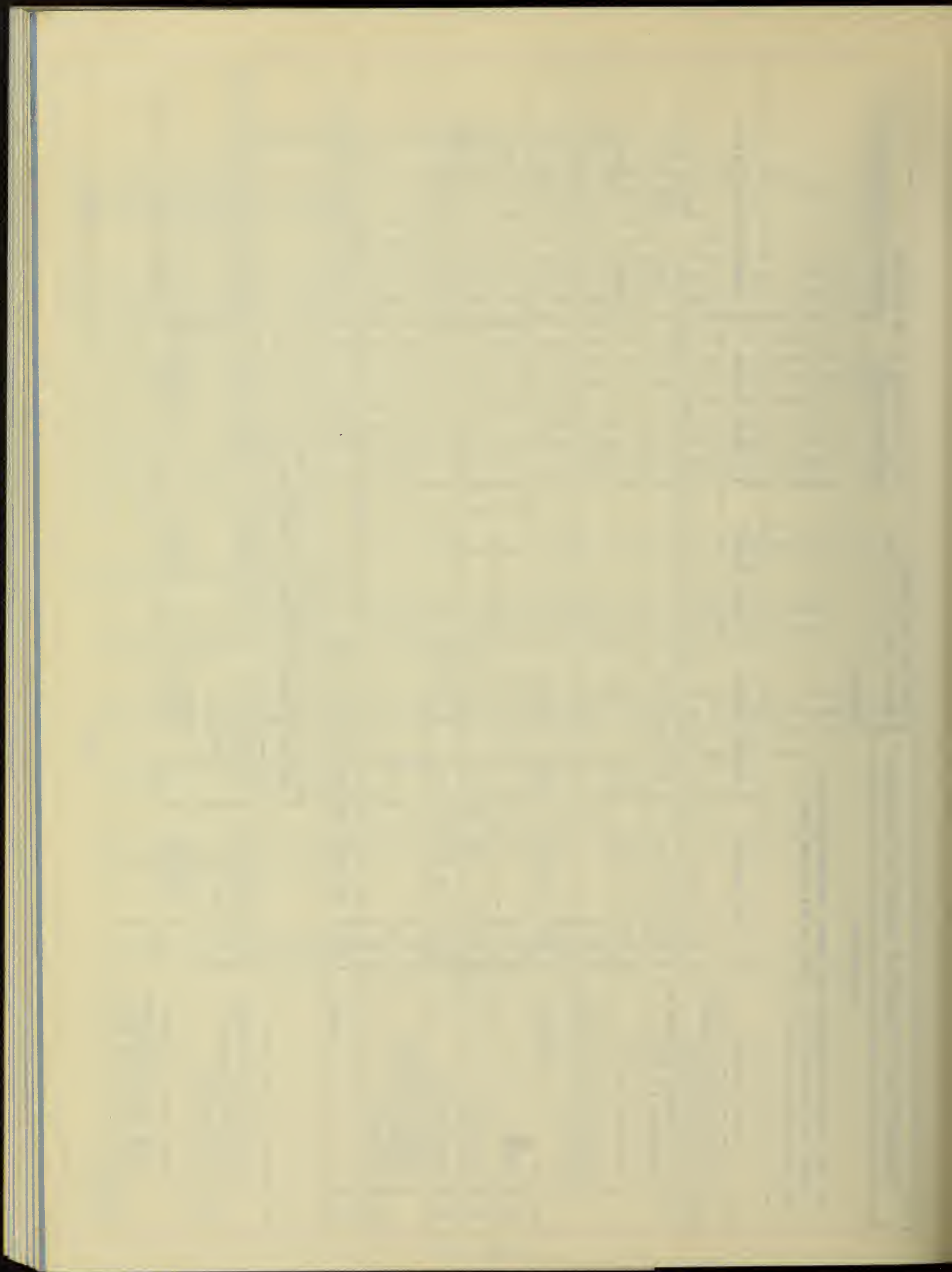
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
BUREAU OF OFFICE

REMARKS:

CUMULATIVE TOTAL TO DATE

MOTOR VEHICLE ACCIDENT EXPERIENCE

SIGNATURE



LOST TIME ACCIDENT SUMMARY

GOVERNMENT FORCES

January through June 1961

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																				
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST-CHEMICALS -GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JUMPING TO OR FROM PLACES	STRUCK AGAINST MATERIAL	FLUNG PARTICLES	HAND TOOLS	MACHINERY	NOT OTHERWISE CLASSIFIED	TOTAL
						THIS YEAR TO DATE	LAST YEAR (1960)	THIS YEAR TO DATE	LAST YEAR (1960)																					
Washington Office	229	232,672				0.0	0.0	0	0																					
Denver Office & Laboratories	1,331	1,353,752	2	1	6,019	1.5	1.6	4,446	10													1							2	
Alaska District	31	28,697				0.0	36.5	0	243																					
REGION 1																														
Boise Regional Office	267	252,683	3		5	11.9	2.3	20	5																	1	2	3		
Central Snake Projects Office	47	44,340	2		28	45.1	21.5	631	774																	2				
Chief Joseph Dam Project	40	39,925				0.0	0.0	0	0																					
Columbia Basin Project	847	874,952	13		86	14.8	12.3	98	90				1		1					8		2				1		13		
Crooked River Project	32	32,545				0.0	0.0	0	0																					
Hungry Horse Project	53	55,731				0.0	16.4	0	57																					
Minidoka Project	174	159,333	1		2	6.3	11.1	13	39											1								1		
Rogue Project	58	64,547				0.0	6.1	0	12																					
Vale Project	7	6,851				0.0	--	0	--																					
Yakima Project	40	37,230	1		56	26.9	34.6	1,504	1,141													1								
Totals and Averages	1,565	1,568,137	20		177	12.7	11.8	113	181																					
REGION 2																														
Sacramento Regional Office	506	522,034	2		4	3.8	1.1	8	214													2						2		
Folsom	70	73,039				0.0	0.0	0	0																					
Fresno	150	153,288	2		330	13.0	3.3	2,153	124											1		1						2		
Shasta Dam	119	129,640	1		30	7.7	12.1	231	895													1						1		
Tracy	186	191,707				0.0	0.0	0	0																					
Distribution System Projects Office CVP	44	49,761				0.0	0.0	0	0																					
El Dorado Project Office, CVP	51	52,616	1		3	19.0	27.2	57	55,374																		1	1		
San Luis Unit, CVP	45	27,369	1		2	36.5	--	73	--											1								1		
Trinity River Division, CVP	293	292,984	4		54	13.6	10.6	184	563											1	1					1	1	4		
Klamath Project	46	49,732	1		17	20.1	0.0	342	0																			1		
Lahontan Basin Office	53	56,589				0.0	10.1	0	121													1								
Totals and Averages	1,563	1,598,719	12		440	7.5	5.0	275	2,311																					
REGION 3																														
Boulder Regional Office	156	159,487				0.0	3.9	0	8																					
Boulder Canyon Project	164	166,853	7		128	41.9	30.5	767	2,008											3		1	1			1		7		
Colorado River RM&LS Project	73	69,420	1		39	14.4	54.9	562	960				1							1								1		
Parker-Davis Project	270	282,807	5		84	17.7	10.6	297	193											2		1				1		5		
Yuma Projects Office	139	137,901	7		43	50.8	37.6	312	251											1		3				1	1	7		
Totals and Averages	862	816,468	20		294	24.5	23.8	360	648																					
REGION 4																														
Salt Lake Regional Office	279	270,994				0.0	0.0	0	0																					
Central Utah Projects Office	147	149,030	3		13	20.1	12.5	87	83																	2		3		
Curecanti Unit, CRSP	17	16,389	1		1	61.0	--	61	--				1													1		1		
Flaming Gorge Unit, CRSP	111	101,779				0.0	0.0	0	0																					
Glen Canyon Unit, CRSP	303	323,304	2		35	6.2	5.8	108	11,705												1						1	2		
Navajo Unit, CRSP	68	77,942				0.0	14.5	0	415																					
Transmission System Office, CRSP	62	63,520				0.0	13.9	0	28																					
Durango Projects Office	72	76,111				0.0	8.3	0	17																					
Grand Junction Office	159	168,840				0.0	8.7	0	436																					
Logan Area Office	14	15,720				0.0	39.6	0	357																					
Seedsdale Project	22	9,626				0.0	--	0	--																					
Upper Green River Office	52	56,257				0.0	14.8	0	52																					
Weber Basin Project	147	153,660	1		60	6.5	9.9	390	159																		1	1		
Totals and Averages	1,453	1,483,172	7		109	4.7	7.3	73	2,438																					
REGION 5																														
Amarillo Regional Office	173	193,991	2		38	10.3	6.0	196	12																	1	2			
Albuquerque Project Office	330	367,872	9		96	24.5	34.7	261	541											7		1				1	0			
Lover Rio Grande Rehab. Project	66	68,715	1		4	14.5	0.0	58	0																	1	1			
Rio Grande Project	285	300,262	8		151	26.6	34.6	503	234				1							4		1		1			8			
San Angelo Project	99	114,684	1		3	8.7	6.7	26	7											1							1			
San Luis Valley Project	2	1,528				0.0	0.0	0	0																					
Washita Basin Project	90	92,649				0.0	0.0	0	0																					
Totals and Averages	1,045	1,139,701	21		292	18.4	22.4	256	236																					
REGION 6																														
Billings Regional Office	199	191,772				0.0	6.1	0	159																					
Canyon Ferry Project Office	19	19,915				0.0	22.2	0	178																					
East Bench Project Office	60	64,399				0.0	0.0	0	0																					
Fort Park Project	37	35,695	2		30	56.0	0.0	840	0											1							2			
Missouri-Oahe Projects Office	197	189,440	1		10	5.3	5.5	53	11																		1			
Missouri-Souria Projects Office	133	129,297	1		6	7.7	8.7	46	90											1		1					1			
Owl Creek Project Office	3	1,096				0.0	0.0	0	0																					
Power System Operations Office	37	38,480				0.0	0.0	0	0																					
Riverton Project	30	28,573				0.0	19.1	0	899																					
Upper Missouri Projects Office	88	84,404	2		25	23.7	29.0	296	956																1		2			
Yellowtail Project Office	67	70,553				0.0	0.0	0	0																					
Totals and Averages	870	853,624	6		71	7.0	8.9	83	176																					
REGION 7																														
Denver Regional Office	148	148,096				0.0	0.0	0	0																					
Denver Development Office	22	22,856				0.0	0.0	0	0																					
Kansas River Projects	328	333,512	3		69	9.0	0.0	207	0																	1	1	3		
Nebraska-Lower Platte Projects Off	262	251,714	3		10	11.9	10.0	40	30																					
North Platte River Projects	295	307,120	1		1	3.2	9.5	3	28,532											1							1			
South Platte River Projects	167	171,688	1		2	5.8	11.9	12	109																		1			
Totals and Averages	1,222	1,234,986	8		82	6.5	4.7	66	7,790																					
CONSOLIDATED TOTALS																														
CONSOLIDATED TOTALS	10,111	10,309,928	96	1	7,484	9.3	---	726	---				1		4		1			34	3	16	2	5	1	8	4	17	96	
TOTALS LAST YEAR (1960)	9,693	19,36																												

*FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

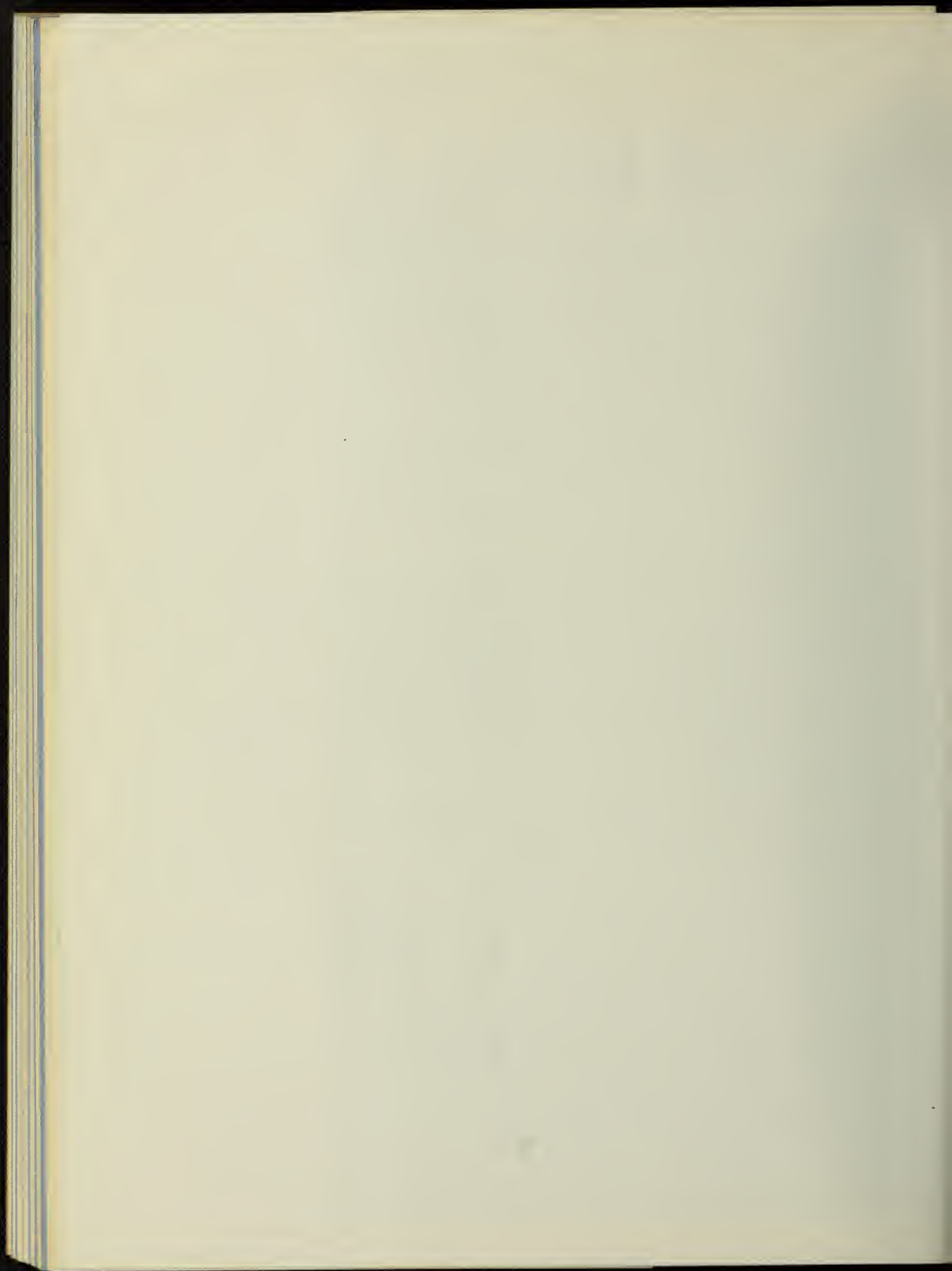
LOST TIME ACCIDENT SUMMARY

CONTRACTOR FORCES

January through June 1961

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN-HOUR EXPOSURE	NUMBER OF INJURIES		DAYS LOST	FREQUENCY RATE		SEVERITY RATE		TYPES OF ACCIDENTS - THIS YEAR TO DATE																						
			DISABLING	FATAL **		ACCIDENTS PER MILLION MAN-HOURS WORKED		DAYS LOST PER MILLION MAN-HOURS WORKED		RAILROADS	AIRCRAFT	WATER CRAFT	ELEVATORS	VEHICLES	PRESSURE EQUIPMENT	EXPLOSIONS	FIRES	ELECTRICITY	FLASH BURNS	DUST-CHEMICALS - GASES	HANDLING MATERIAL OR EQUIPMENT	FALLING OBJECTS	FALLS OF PERSONS	JUMPING TO OR FROM PLACES	STRUCK AGAINST MATERIAL	FLYING PARTICLES	HAND TOOLS	MACHINERY NOT OTHERWISE CLASSIFIED	TOTAL			
						THIS YEAR TO DATE	LAST YEAR (1960)	THIS YEAR TO DATE	LAST YEAR (1960)																					1	2	3
REGION 1																																
Boise Regional Office	2	1,192				0.0	0.0	0	0																							
Chief Joseph Dam Project	27	20,151				0.0	0.0	0	0																							
Columbia Basin Project	113	131,686	1		7	7.6	47.2	53	412													1										1
Crooked River Project	72	63,761				0.0	0.0	0	0																							
Hungry Horse Project	10	2,219				0.0	0.0	0	0																							
Minidoka Project	12	8,001				0.0	0.0	0	0																							
Rogue Project	99	88,112	1		5	11.3	60.6	57	1,491													1										1
Yakima Project	30	24,221				0.0	0.0	0	0																							
Totals and Averages	365	339,343	2		12	5.9	43.6	35	713																							
REGION 2																																
Sacramento Regional Office	7	1,959	1		10	510.5	0.0	5,105	0								1				1										1	1
Distribution System Project Office	47	44,928	3		105	66.8	30.9	2,337	925																							3
El Dorado Project Office, CVP	32	25,128	3		24	119.4	90.4	955	1,808																							3
Trinity River Division, CVP	1,026	1,050,726	55	1	7,188	52.3	27.8	6,841	9,549	3			1	1			1				14	15	12	2	2					1	1	55
Klamath Project	20	13,150				0.0	0.0	0	0																							
Klamath Project	20	13,150				0.0	0.0	0	0																							
Lahontan Basin Project	66	29,235	3		26	102.6	--	889	--																						3	3
Totals and Averages	1,198	1,165,126	65	1	7,353	55.8	28.1	6,311	8,621																							
REGION 3																																
Boulder City Regional Office	7	2,714				0.0	0.0	0	0																							
Boulder Canyon Project	31	32,212				0.0	53.5	0	165,369																							
Colorado River FWS	12	4,670				0.0	0.0	0	0																							
Parker-Davis	11	8,498	1		10	0.0	0.0	0	0																							
Yuma Projects Office	175	164,488	3		78	18.2	16.2	474	20,211																							
Totals and Averages	236	212,582	4		88	16.8	19.1	414	33,784																							
REGION 4																																
Central Utah Projects Office	85	78,640	4		17	50.9	15.7	216	555																							
Flaming Gorge Unit, CRSP	414	459,183	3		250	6.5	9.5	544	19,173																							
Glen Canyon Unit, CRSP	2,152	2,247,414	40	1	7,675	17.8	17.7	3,415	10,525																							
Navajo Unit, CRSP	400	435,148	5		43	11.5	19.2	99	6,013																							
Grand Junction Office	155	156,532	5		22	31.9	34.8	140	10,158																							
Seedskadee Project Office	21	3,232				0.0	--	0	--																							
Weber Basin	97	92,090	1		7	10.8	43.7	75	808																							
Totals and Averages	3,324	3,472,239	58	1	8,014	16.7	20.2	2,308	9,825																							
REGION 5																																
Amarillo Regional Office	19	9,694	1		2	103.1	0.0	206	0																							
Albuquerque Project Office	49	48,070				0.0	0.0	0	0																							
Lower Rio Grande Rehab. Project	150	90,057				0.0	51.8	0	822																							
San Angelo Project	395	541,535	29	2	16,907	53.5	33.1	31,220	14,104																							
Washita Basin Project	191	171,233	5		63	29.2	27.8	368	529																							
Totals and Averages	804	860,589	35	2	16,972	40.7	30.5	19,719	4,157																							
REGION 6																																
East Bench Project Office	62	62,491	2		49	32.0	69.5	784	4,173																							
Missouri-Oahe Projects Office	93	66,040	6		111	99.8	26.6	1,681	240																							
Missouri-Souris Projects Office	129	114,558	3		79	26.2	46.0	690	15,291																							
Riverton Project	25	20,951				0.0	0.0	0	0																							
Upper Missouri Projects Office	7	4,191				0.0	0.0	0	0																							
Yellowtail Project Office	71	51,459				0.0	0.0	0	0																							
Totals and Averages	387	319,740	11		239	34.4	34.7	747	17,221																							
REGION 7																																
Kansas River Projects	219	227,464	2	1	6,002	8.8	12.1	26,384	134																							
Niobrara-Lower Platte Projects	238	262,839	4			15.2	0.0	921	0																							
North Platte River Projects	45	35,955	3		39	83.4	56.4	1,085	17,561																							
South Platte River Projects	9	4,199				0.0	0.0	0	0																							
Totals and Averages	511	530,477	9	1	6,283	17.0	27.8	11,844	5,647																							
CONSOLIDATED TOTALS																																
TOTALS LAST YEAR (1960)																																
SAME PERIOD LAST YEAR																																
										PERCENT OF TOTAL																						

**FATALITIES INCLUDED IN TOTAL DISABLING



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SHIFT YOUR FEET

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SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

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January 1962

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Front Cover Photo: Casper, Wyoming. Changing out an insulator on energized 115-kv transmission line using live-line, bare-hand technique. Reclamation photo P467-703-613.

SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD

GOVERNMENT FORCES

January 1, 1962 - January 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident** rate</u>
Region 3	0.0	0	0.0	5.80
Alaska District	0.0	0	0.0	604.96
Region 1	3.9	4	0.2	3.55
Region 6	6.5	39	2.5	7.09
Region 7	9.1	82	7.5	6.99
Region 4	10.6	2,753	291.8	6.11
Region 5	10.8	54	5.8	7.13
Region 2	16.2	129	20.9	5.52
Totals to Date 1962	7.6	465	35.3	6.42

Totals Last Year 7.6 427 32.5 4.64

*Injury index is equal to the frequency rate times the severity rate divided by 100.

**Motor vehicle accident rate is now based on the number of accidents per 1,000,000 miles of driving.

1962 CUMULATIVE SAFETY RECORD

CONTRACTOR FORCES

January 1, 1962 - January 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	0.0	0	0
Region 3	0.0	0	0
Region 7	0.0	0	0
Region 6	11.5	1,036	0
Region 2	25.8	1,027	0
Region 4	29.1	1,048	0
Region 5	37.7	392	0

Totals to Date
1962 25.0 839 0

Totals Last Year 24.1 5,926 12

ACCIDENT REVIEW

FALL - SAME LEVEL

Employer: Government

Activity: Carrying materials from pickup truck.

Accident Situation and Occurrence: The employee lifted two glass gallon jugs containing a toxic insecticide from the back of a pickup. While carrying the two glass jugs in his left hand, he reached into the cab of the pickup to get a single-edged unsheathed axe before going into the workshop. The employee tripped over a nail which protruded from a 2- by 6-inch plank in the wood platform on the outside approach to the doorway of the shop. He took several stumbling steps before he fell in a prone position to the concrete floor, several feet inside the door. In his fall, the axe blade struck the left hand and severed three fingers of his left hand.

Cause Determination: As is the case in most accidents, both a physical hazard and an unsafe act were present in this instance.

Physical Hazards

1. A damaged wooden platform with protruding nail.
2. An unsheathed sharp axe.

Unsafe Practices

1. Employee's attempt to carry two glass gallon jugs full of insecticide (each weighing more than 9 pounds) in one hand and a sharp unsheathed axe in the other hand.

Recommendations:

1. Replace wooden platform, at the entrance to the work and storage shop, with a concrete apron.
2. Procure standard leather sheaths to be fitted and kept on all axes except when in actual use.
3. Substitute plastic or metal containers in place of glass containers for storing or carrying all toxic or flammable liquids.

FROM THE FIELD

South Platte River Projects: Each foreman was given copies of the National Safety Council publications entitled "50 Short Safety Talks for Tailboard Meetings" and "Five Minute Safety Talks for Construction and Maintenance Foremen" for use in safety meetings.

Niobrara-Lower Platte Projects: The Bureau's interest in water safety was discussed with representatives of the American Red Cross Hall County Chapter on February 1. Arrangements were made to meet again within the next few weeks to discuss organizing a Water Safety Educational Committee to promote public water safety awareness. The Hall County Chapter has a very active swimming instruction program at present; however they expressed their interest in becoming more active in helping to promote public water safety. The Project's Safety Officer plans to meet with Red Cross representatives in Howard, Sherman, Custer, Brown and Cherry Counties to stimulate interest and to assist in promoting public education in water safety.

Florida Construction Division: A crew on contract work were moving fan-line pipe sections forward in a tunnel. Line was loaded on top of muck cars and the men held onto the pipe as it was transported. Injured employee was standing in rear muck car directly behind pipe. Front end of pipe hooked onto drill jumbo and the pipe struck employee who received a groin injury. Pipe should have been transported on flatcar and tied down with a chain or cable.

Grand Junction Office: While collecting trash from residences in Government camp, employee loaded steel barrel filled with frozen ashes onto pickup. While lifting the barrel it slipped off the tailgate and the employee received a hernia injury. Employee should get help to load heavier than normal containers.

Regional Office, Billings, Montana: The Bureau of Mines First-Aid Instructor's Course was conducted by Mr. Svilar, January 15-19, 1962. Sixteen Bureau employees and a contractor's superintendent were among those who attended and successfully completed the course.

Region 4 Contractor: An electrical foreman measured a conduit in a switchyard with a steel tape. He disregarded instructions to open the main switch and the tape he was using flipped up and contacted a 7,200-volt bus. The employee received electrical shock and burns with an estimated lost time of 34 days. This accident could easily have resulted in a fatality. Why take chances when your life is at stake?

Yellowtail Project Office: Scrubbers have been placed on all diesel units used in tunnels. Regular tests of ventilation in tunnel have been made as required. All tunnel supervisors have been instructed

to keep men out of tunnels after blasting with ammonium nitrate agents until the reddish yellow fumes have been cleared out and tests completed indicating safe conditions.

LIVE-LINE, BARE-HAND TECHNIQUE - TRANSMISSION LINES

Region 7 has recently purchased a truck-mounted insulated aerial basket equipped with a 55-foot boom to perform bare-hand maintenance on energized transmission lines. Since this is a new method, using special equipment, a 3-day demonstration and training period for Bureau linemen was conducted by the manufacturer's representative during January 1962 at Casper, Wyoming. The line crews changed out insulator strings, replaced vibration dampers, repaired overhead ground wires and performed similar work on an energized 115-kv transmission line, utilizing the bare-hand technique. The new method will help expedite wood-pole transmission line maintenance and repair and is physically less arduous for the workmen. The front cover photo shows a view of the equipment with men working on an energized 115-kv line. A tentative set of safety instructions have been issued for the use of linemen in Region 7 who are engaged in this new operating procedure. (Refer to page 6 of this issue.)

* * * * *

SAFETY AWARD - FLAMING GORGE UNIT

The Flaming Gorge Unit of the Colorado River Storage Project, Utah, has recently received the Department of the Interior Certificate of Safety Achievement Award. The safety award was in recognition of having completed 507,426 man-hours of work, from May 28, 1959, to November 1, 1961, without a disabling injury.

* * * * *

Personnel Item: The following notice is currently appearing in various safety engineering publications:

"The Bureau of Reclamation has vacancies for safety engineers, \$6,345 to \$7,560 a year, on construction of large earth and concrete dams in the 17 western states. Positions require an engineering degree or equivalent, plus appropriate safety experience. Applicants with heavy construction experience desired. Apply to Chief, Personnel Branch, Bureau of Reclamation, Building 53, Denver Federal Center, Denver 25, Colorado."

ED-11
(Rev. 7/61)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
REGION 2

El Dorado Distribution System Project Office
P. O. Box 707
Placerville, California

REPORT OF CONDITIONS AFFECTING SAFETY, HEALTH, AND SANITATION

To: _____, contractor for Specs. _____

A review of safety activities of your construction and plant areas was made
_____ by _____

_____. The following listed items were considered:

- | | |
|---|--|
| (1) General conditions | (7) Contractor's safety program |
| (2) Condition of plant, yard, equipment | (8) Safety to public |
| (3) Operation of equipment | (9) Sanitary conditions and facilities |
| (4) Physical condition of workmen | (10) Unusually hazardous conditions |
| (5) Drinking water facilities | (11) First aid and rescue equipment |
| (6) Housekeeping | (12) Fire control |

Remarks:

This is a copy of a safety report form used by the El Dorado Project Office in reporting safety conditions to the contractor. Any corrections needed for compliance with the safety regulations can be noted and directed to the contractor for proper action.

You are requested to correct items _____ within _____ hours.

You are requested to correct items _____ within _____ days.

Very truly yours,

H. E. Horton
Project Construction Engineer

SAFETY PROVISIONS--HOLAN LIVE-LINE, BARE-HAND EQUIPMENT AND TECHNIQUE

1. This technique shall not be used on circuits with line-to-line voltage rating greater than 138-kv with use of the equipment now available on the project.
2. This technique shall not be used on circuits with line-to-line voltage rating less than 30-kv without prior approval of the Regional Director.
3. Workmen using this technique shall have satisfactorily completed a minimum of 3 days of instructions and shall be so certified in writing by their supervisor.
4. All work shall be personally supervised by the regular crew foreman or supervisor, trained and certified to perform this work.
5. Each bucket shall be occupied by a qualified individual when utilizing this technique except during training with a qualified instructor supervising the operation. These two will work together as a team.
6. Personnel using this technique will wear conductive sole shoes or otherwise bond their skin electrically to the bucket liner.
7. Personnel will thoroughly scrape dirt from conductive sole shoes before entering the bucket. The bucket liner floor will be inspected for dirt or other material which might prevent good contact between the floor and conductive soles. Foreign material discovered by this inspection will be immediately removed.

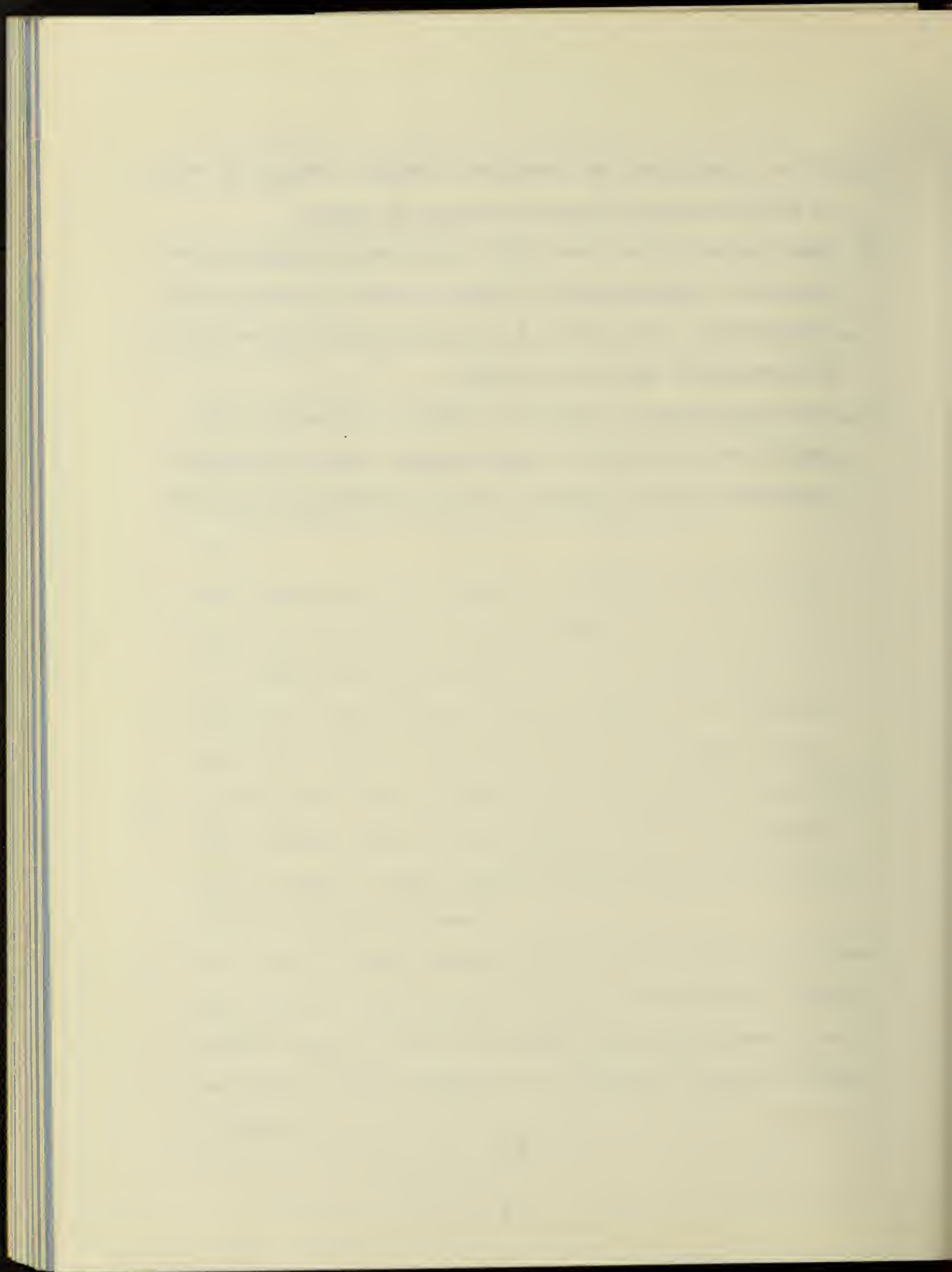
8. Personnel will be belted in with approved type safety belts prior to elevating the buckets.
9. One man capable of operating all the controls shall be stationed on the ground near the truck when workmen are in the buckets. He shall also warn other people from walking under the work area and keep them clear of the truck when the boom is in the air. When the buckets are occupied, all movements shall be controlled by the workmen in the buckets except in emergencies.
10. A hot line order shall be obtained before working on any energized circuit in accordance with the procedure set forth in the Power System Safety Handbook.
11. If practical, both copper braid bonding straps from the two bucket liners shall be attached to the energized circuit before making body contact with the energized circuit. At least one of these clamps shall remain attached to the energized circuit at all times when work is being performed on the circuit.
12. (a) When approaching or leaving a live line or bonded to a live line, workmen shall maintain the minimum distances specified in table below.
(b) The same minimum distances shall be observed from energized conductors or parts when approaching, leaving, or working on parts at ground potential.

<u>Nominal Voltage Phase to Phase Rating</u>	<u>Minimum Clearance to Ground</u>	<u>Minimum Clearance Phase to Phase</u>
34.5 kv	18 inches	24 inches
69 kv	24 inches	40 inches
115 kv	36 inches	60 inches

In dry locations, for work on 34.5 and 69-kv circuits, where it is not practical to maintain the specified safe distance, the distances may be reduced only if approved insulating guards or barriers are placed between the person and parts at a different voltage level, as approved by the Project Chief of Power Division. To work the center phase of horizontally configured 115-kv or 69-kv structures with cross bracing, the minimum phase to ground clearance may be reduced to 12 inches if approved barriers have been applied to the cross braces. This 12-inch clearance applies only to the minimum distance between the bucket and the approved barrier on the cross brace.

13. When working close to the ground, a minimum of 58 inches of air space will be maintained between the upper end of the black tape on the upper arm and the nearest part of the lower boom.
14. Workmen shall keep both legs inside the bucket at all times when aloft and at least one foot on the bottom of the bucket liner.
15. The use of hand lines is prohibited. With exception of appropriate length jumpers, armor rods, and approved tools, no hand lines, metallic tapes, or other conductive material over 36 inches long shall be placed in the bucket.
16. The buckets and upper boom arm will not be over-stressed by attempting to lift or support weight in excess of manufacturer's rating. For this reason, as well as to protect the fiberglass parts, none of the bucket or upper arm parts will be used as a fulcrum for prying or lifting.

17. All out-riggers shall be located and adjusted to support the weight of the truck before moving the boom from the cradle.
18. Each day, just prior to use, tests will be made of leakage current through the insulated portion of the upper boom in accordance with manufacturer's instructions. A written record of these tests shall be maintained by the operating office.
19. The equipment shall be thoroughly inspected in accordance with manufacturer's instructions during use under a rigid preventative maintenance program, utilizing appropriate maintenance check lists.



CHAPTER 1 SAFETY ADMINISTRATION

365.1.1

POLICY AND BASIC REQUIREMENTS

- .1 Policy. Adherence to sound safety practices yields immeasurable benefits, both human and material. It is the policy of the Bureau to initiate and carry out a vigorous and effective safety program which is essential to maximum utilization of personnel, equipment, and funds. Each Bureau employee is expected to perform his respective duties in a manner which is consistent with the highest standards of health and safety. Observance of applicable health and safety measures and procedures, including the provisions of this manual, Federal, State, and local safety codes and regulations, is mandatory. Active participation in the Bureau's safety effort is considered an essential responsibility of all Bureau supervisory personnel. Supervisory responsibility to maintain the highest standards of health and safety, extends to provisions for protection of the public and contractor personnel.
- .2 Administration of the Bureau Safety Program. The Office of the Assistant Commissioner and Chief Engineer is responsible for the operational and technical engineering aspects of the Bureau's safety program, including employee safety, public safety, and safety of contractor personnel. The program will be carried forward within the policy and procedural framework contained in these and related instructions.
- .3 Regional Responsibility. Each Regional Director and the Alaska District Manager is responsible for effective administration of the Bureau's safety program on all operations within his jurisdiction. In order to insure adequate and effective exercise of the responsibility, each Regional Director shall employ a qualified Safety Officer with appropriate supporting staff. Each region is permitted full exercise of initiative in planning and carrying out a regional safety program. However, compliance with the health and safety provisions as set forth in this Part 365 Safety, of Reclamation Instructions and "Safety Requirements for Construction by Contract," is mandatory and represents minimum health and safety prerequisites.
- .4 Operating Office Responsibility. Each operating office head is responsible to his Regional Director for effectively carrying out the safety program, and providing for full compliance with the prescribed health and safety provisions. Where employment of a full-time Safety Officer is not warranted, the operating office head shall design a key supervisor responsibility to administer and carry out the operating office safety program. The supervisor delegated this responsibility shall cooperate with the operating office safety committee, and should preferably report directly to the operating office head.
- .5 Supervisor Responsibility. Every supervisor is expected to perform his assigned duties in a manner which is consistent with the highest standards of health and safety. Supervisors are responsible for training their employees to work safely; for correcting unsafe acts and hazardous conditions; for investigating and reporting all accidents; and for taking necessary precautions to protect their employees, the public, and property. They are responsible for adherence to the health and safety provisions as set forth in this part of the Reclamation Instructions, and in "Safety Requirements for Construction by Contract" where applicable.
- .6 Employee Responsibility. Employees are expected to observe all safety regulations and to comply with safety instructions issued to them by their supervisors. Each employee is responsible for insuring his own safety, for carrying out his work in a manner not endangering fellow employees, and for promptly reporting accidents and injuries to his supervisor.

- .7 Safety Requirements for Construction. The Bureau publication entitled "Safety Requirements for Construction by Contract" shall be incorporated as part of each construction contract exceeding \$10,000. Reference is made to the provisions contained in the standard "Safety and Health" paragraphs of construction specifications. Contractors shall submit a proposed safety program to the contracting officer for his approval prior to start of construction operations. Contracting officers or their authorized representatives shall hold preconstruction meetings with representatives of prime contractors and their subcontractors for the purpose of establishing safety performance standards and safety requirements applicable to the work under contract. On all major construction projects, provision shall be made for a monthly meeting of a joint Safety Policy Committee composed of Bureau and contractor supervisory personnel. These meetings, to be attended by both the contractor's project manager and the contracting officer's representative, shall be utilized to review the contractor's accident experience and his compliance with contractual safety provisions, and to discuss the effectiveness of the contractor's safety effort.
- 3 Safety Committees. A Safety Committee shall be established in each regional office, operating office, and the Alaska District and shall consist of the office head (or his designated representative), the Safety Officer, and supervisors of the various divisions or work activities. The Committee shall meet at least once a month to review and evaluate the safety program and determine what action is required to improve the accident record. The purposes of the Safety Committee are primarily to promote continuing interest in safety and to enhance coordination between division heads and the Safety Officers. The Safety Committee serves as the focal point in reviewing safety activities and recommending safety policy and accident prevention activities to the office head. The members of the Committee are responsible for reviewing accident reports, recommending corrective measures, reviewing the operating office accident experience, and assisting in initiating and carrying out employees' safety training and education. Written minutes of monthly meeting of the Committee shall be maintained, and one copy of the minutes submitted to the Assistant Commissioner and Chief Engineer, attention 206, with the regional monthly safety report.
- .9 Safety Meetings. In order to reach all employees, regularly scheduled safety meetings shall be conducted as provided in Paragraph 365.2.5.
- .10 Safety Inspections. Safety inspections and reviews to determine the adequacy of safety activities of field offices are of prime importance to the safety program. Safety inspections are the direct responsibility of the head of the operating office. Noncompliance with safety regulations, and unsafe practices and conditions which are disclosed by safety inspections, shall be reported to the head of the operating office for correction. Matters affecting the enforcement of the safety provisions of construction contracts shall be referred to the contracting officer or his authorized representative for appropriate action. Relative to safety instructions and requirements on construction contracts, refer to the booklet, "Safety Requirements for Construction by Contract."
- .11 Operation of Motor Vehicles by Government Employees. Each employee of the Bureau of Reclamation whose duties include the operation of a motor vehicle (including heavy construction equipment) owned, leased, or hired by the Government shall have a valid U. S. Government Motor Vehicle Operator's Identification Card issued in accordance with regulations and procedures prescribed in Chapter 312.24 of Series 310 Personnel. It shall be the responsibility of the Bureau office head to see that each licensed employee is furnished a copy of the Department's Motor Vehicle driver regulations at the time the certificate is issued. All Bureau vehicles shall be operated in accordance with applicable State and local laws and ordinances.

- .12 First-aid Facilities. Facilities shall be provided and satisfactory arrangements made to provide prompt, efficient first-aid treatment and all necessary medical and hospital care for injuries that occur on a project. The adequacy of such facilities shall be determined by periodic inspection by the Bureau Safety Engineer. On large projects or where a large number of public visitors may be expected, the Bureau shall provide for one or more first-aid stations staffed by competent registered nurses.
- .13 Protection of Public. Every reasonable precaution shall be taken to protect the public from possible injury in connection with or as a result of any work or operation of the Bureau of Reclamation. In the design and construction of all projects, as well as in the operation and maintenance, the safety of the public shall be a matter of constant consideration and attention on the part of every Bureau employee.
- A. Exclusion of Public. In most cases it will be found advisable to exclude the public from the site or scene of construction activities. Suitable fences, guards, and signs should be used to accomplish this end. Official guests should always be conducted over the work. Where it is impossible or impracticable to exclude the public, as along a public highway, adequate warning signs shall be posted, and, if deemed necessary, flagmen shall be posted to warn the public and to direct traffic.
- B. Vista Houses. It has been found practical in some instances to erect vista houses where the public can view work in progress without entering danger zones.
- .14 Employment Standards. Employment standards applicable to selection, examination, and training of employees shall be observed as provided in Series 310 Personnel.
- .15 Training Employees. No employees shall be given a new assignment on work unfamiliar to him without proper instructions as to how to perform the work in a safe manner, so as not to endanger himself or fellow employees. This instruction is the function of an employee's immediate foreman or supervisor. In training new employees, or employees transferred to a new job, the following steps are generally recognized as proper procedure:
- A. Acquaint the employee with the purpose of the job and where it fits into the general program.
- B. Explain the job in detail.
- C. Demonstrate the job, explaining each step.
- D. Allow the employee to do the job under the observation of the instructor.
- E. Check the employee frequently and continue to give close supervision as required.
- F. Every new employee shall be issued a one-page written directive containing pertinent Bureau and project health and safety provisions. (Refer to Paragraph 365.2.2.)
- .16 Pre-employment Physical Examination. Pre-employment physical examinations are required by Part 312 Staffing. The primary purpose of the pre-employment examination is to determine whether or not an applicant is physically qualified to perform the particular job for which he is being considered. Therefore, supervisors should make full and effective use of the examinations.

- . 17 Fitness-for-duty Medical Examination. Employees should be examined periodically if there are indications of respiratory or circulatory weaknesses, predisposition to hernia, or other defects which may become aggravated with time or under the conditions of their employment. Likewise, employees should have frequent periodic examinations if they are working under conditions where continued exposure may result in impaired health; or are operating such equipment as cableways hoists, elevators, and power stations, where loss of control because of sudden incapacitation would constitute a serious accident hazard. Every reasonable effort shall be made to retain employees whose re-examinations indicate new or increasing weaknesses, by reassignment to duties in which they will not constitute a hazard to themselves or other persons.
- . 18 Personal Protective Equipment and Clothing. Personal protective equipment and clothing, as listed in Part 592 of Series 590 Safety Techniques and Standards, is provided by the Bureau as an aid in preventing occupational injuries. Supervisors are directly responsible to provide these items and to insure their use where required for the health and safety of the employee. Hard hats are to be worn by all employees within construction areas.
- . 19 Willful Disregard of Safety Directives. As required by Paragraph 365.1.6, employees shall comply with proper safety instructions issued to them by their supervisors. Cases of deliberate failure to follow safety instructions, or to carry out the safety responsibilities of a position on the part of an employee, constitute an infraction to be dealt with as prescribed in Chapter 313.6 of Series 310 Personnel. Responsibility for the determination of disciplinary action is solely an administrative function.

- .1 General. Effective accident prevention training is a constant and continuing responsibility of Bureau supervisors, carried out through the media of safety meetings, safety seminars, indoctrination of new employees, educational releases, and day to day supervision. Each operating office of the Bureau shall provide the safety instruction outlined below as a minimal training requirement.
- .2 Safety Indoctrination of New Employees. A one-page written directive containing pertinent Bureau and operating office safety provisions shall be issued to each new employee as part of his or her indoctrination. Every Bureau supervisor shall properly instruct each new employee in the safe performance of his or her assigned duties.
- .3 First-aid Training. First-aid training is generally recognized as an effective means of promoting safety among field supervisors. Every supervisor of Bureau field personnel (surveyors, inspectors, operation and maintenance, and force account personnel) shall complete an approved course in first-aid training. In order to facilitate this training, a Bureauwide cooperative first-aid training agreement was signed with the Bureau of Mines on July 19, 1961. This agreement establishes the criteria for conducting the Bureau of Mines first-aid course within the Bureau of Reclamation by selected Reclamation personnel trained by the Bureau of Mines. It also provides that the Bureau of Mines will cooperate with the Bureau of Reclamation in training instructors to conduct the first-aid training within Reclamation. Bureau operating office heads are requested to utilize the services of the Bureau of Mines in carrying out this phase of safety instruction. Successful completion of an approved course in first-aid training is to be noted in the supervisor's personnel file, and considered in appraising his job qualifications.
- .4 S. T. A. (Safety to Every Task Assigned). Safety instruction to be effective must of necessity be a continuing and conscientious effort upon the part of supervision, placing safety instruction on a par with other work instructions. Through the media of safety meetings and job safety releases, every effort shall be made to impress Bureau supervisors with the necessity for including safety considerations when giving work instructions to their crews. S. T. A. essentially provides that when a supervisor assigns a task to an employee he also instructs the employee how to perform the task safely.
- .5 Safety Meetings. Regularly scheduled effective safety meetings have proved to be the keystone in successful loss prevention programs. Safety meetings at each operational level present the only effective method of establishing practical loss-prevention measures and of acquainting all employees with the safety provisions pertinent to their work. The following required safety meetings, when properly conducted, represent a fundamental phase of Bureau safety training:
 - A. Bureau Supervisory Personnel. All operating offices of the Bureau shall hold regularly scheduled supervisory safety meetings. Each supervisor of Bureau personnel, excluding office and clerical personnel, shall attend at least one such meeting a month. The time, place, and duration of these meetings are to be determined by the operating office head. It is not necessary nor recommended that all operating office supervisors attend the same meeting. For example:
 - (1) Attendance at the monthly Safety Committee meeting would suffice for operating office heads and division and branch chiefs, and;
 - (2) Each division or branch chief can in turn schedule a meeting or meetings for his subordinate supervisors. These meetings are best

devoted to a review of the previous month's accident experience, a discussion of specific hazards, a review of the pertinent safety provisions of the Reclamation Instructions, etc. Minutes of the supervisors' meeting shall be submitted for the Regional Director's review along with the operating office Monthly Report of Safety Activities. (See Subparagraph 365.4.3A.)

- B. Supervisors' On-the-job (Tool-box) Safety Meeting. Regular safety meetings provide the most practical means of enlisting the assistance of trained field supervisors toward the task of training their employees in accident prevention. Every supervisor of Bureau field employees (surveyors, inspectors, force account personnel, operation and maintenance workers) shall be required to conduct a weekly 5-minute, "on-the-job" safety meeting, preferably at the beginning of his shift each Monday. The meetings shall be utilized by the field supervisor to discuss safety and to instruct his crew in safer practices required to perform their assigned duties. The meeting may be utilized to check safety equipment, review the past week's accident experience, etc. Safety Officers in the field will assist in providing material for these meetings. An adequate attendance record system should be established and maintained for review, as appropriate, by supervisory officials.
 - C. Group Safety Meetings. Occasionally, it may be necessary to hold special group safety meetings conducted by the operating office safety officer or other supervisor. These meetings are most effective when used to discuss a specific general hazard or condition, present safety awards, show pertinent health and safety films, etc. The program should be both well prepared and timely in order to gain maximum interest and effort.
- .6 Posters and Displays. Operating offices should make full use of safety posters, signs, displays, leaflets, bulletins, magazines, and other aids as may be available. Posters should be displayed on neat, attractive bulletin boards, and should be changed frequently. "Home-made" posters and cartoons can be effective. For the larger operating offices, safety bulletins or pamphlets are recommended.

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH JANUARY 31, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	237	41,712	41,712						0.0	0.0		0	0	
Denver Office and Laboratories	1,399	246,224	246,224						0.0	0.0		0	0	
Alaska District	29	4,849	4,849						0.0	0.0		0	0	
REGION 1														
Boise Regional Office	273	44,503	44,503						0.0	0.0		0	0	
Central Snake Projects	42	6,364	6,364						0.0	131.5		0	263	
Chief Joseph Dam Project	41	3,324	3,324						0.0	0.0		0	0	
Columbia Basin Project	823	151,432	151,432	1	1		1	1	6.6	6.6	20.8	7	7	152
Crooked River Project	14	3,150	3,150						0.0	0.0		0	0	
Hungry Horse Project	53	9,185	9,185						0.0	0.0		0	0	
Minidoka Project	159	15,749	15,749						0.0	0.0		0	0	
Rogue Project	36	7,370	7,370						0.0	0.0		0	0	
The Dalles Project Office	27	5,032	5,032						0.0	-	-	0	-	-
Vale Project	12	2,088	2,088						0.0	-	-	0	-	-
Yakima Project	29	4,531	4,531						0.0	0.0		0	0	
Totals and Averages	1,509	257,330	257,330	1	1		1	1	3.9	3.9	15.1	4	4	91
REGION 2														
Sacramento Regional Office	576	101,376	101,376	2	2		2	2	19.7	19.7	0.0	69	69	0
Folsom Field Division	66	12,615	12,615						0.0	0.0		0	0	
Fresno Field Division	156	27,456	27,456	1	1		27	27	36.4	36.4	0.0	981	981	0
Shasta Field Division	115	20,384	20,384						0.0	0.0		0	0	
Tracy Field Division	183	32,460	32,460	2	2		6	6	61.6	61.6	0.0	185	185	0
Distribution System Projects CVP	38	7,563	7,563						0.0	0.0		0	0	
El Dorado Projects Office CVP	46	7,744	7,744						0.0	0.0		0	0	
Red Bluff Office CVP	40	7,040	7,040						0.0	-	-	0	-	-
San Luis Unit CVP	150	26,488	26,488						0.0	-	-	0	-	-
Trinity River Division CVP	276	48,576	48,576						0.0	20.9		0	522	
Klamath Project	44	7,963	7,963						0.0	118.0		0	2,007	
Lahontan Basin Project Office	55	9,680	9,680						0.0	0.0		0	0	
Totals and Averages	1,743	309,345	309,345	5	5		40	40	16.2	16.2	8.0	129	129	167
REGION 3														
Boulder Regional Office	171	30,096	30,096						0.0	0.0		0	0	
Boulder Canyon Project	129	30,228	30,228						0.0	75.3		0	602	
Colorado River F&BIS Project	69	11,728	11,728						0.0	0.0		0	0	
Parker-Davis Project	267	49,762	49,762						0.0	0.0		0	0	
Yuma Projects Office	147	20,761	20,761						0.0	97.5		0	585	
Totals and Averages	813	142,875	142,875						0.0	31.3		0	219	
REGION 4														
Salt Lake Regional Office	307	49,686	49,686						0.0	0.0		0	0	
Central Utah Projects Office	152	27,077	27,077						0.0	0.0		0	0	
Groceries Unit CRSP	59	10,400	10,400						0.0	0.0		0	0	
Flaming Gorge Unit CRSP	127	21,831	21,831						0.0	0.0		0	0	
Glen Canyon Unit CRSP	215	37,960	37,960	1	1		74.0	74.0	17.3	17.3	0.0	12,767	12,767	0
Navajo Unit CRSP	67	10,435	10,435						0.0	0.0		0	0	
Transmission System Office CRSP	100	17,600	17,600						0.0	0.0		0	0	
Durango Projects Office	86	15,982	15,982				8	8	62.6	62.6	0.0	501	501	0
Grand Junction Office	139	27,424	27,424	1	1		34	34	36.5	36.5	0.0	1,240	1,240	0
Logan Development Office	14	2,484	2,484						0.0	0.0		0	0	
Seedsdale Project	68	10,480	10,480						0.0	-	-	0	-	-
Upper Green River Office	28	6,380	6,380						0.0	0.0		0	0	
Water Basin Projects	153	25,710	25,710						0.0	0.0		0	0	
Castle Dale	6	607	607						0.0	-	-	0	-	-
Totals and Averages	1,621	284,036	284,036				782	782	10.6	10.6	0.0	2,753	2,753	0
REGION 5														
Amarillo Regional Office	103	16,332	16,332						0.0	0.0		0	0	
Albuquerque Project Office	301	46,246	46,246						0.0	52.6		0	381	
Austin Development Office	89	12,298	12,298						0.0	-	-	0	-	-
Canadian River Project	89	13,117	13,117						0.0	-	-	0	-	-
Lower Rio Grande Rehab. Project	65	11,960	11,960						0.0	0.0		0	0	
Oklahoma City Development Office	35	5,611	5,611						0.0	-	-	0	-	-
Rio Grande Project	65	47,332	47,332				10	10	42.3	42.3	0.0	211	211	0
San Angelo Project	84	16,526	16,526						0.0	57.0		0	172	
Washita Basin Project	6	8,108	8,108						0.0	0.0		0	0	
Wichita Project	34	4,855	4,855						0.0	-	-	0	-	-
Norman Project Office	23	3,192	3,192						0.0	-	-	0	-	-
Totals and Averages	1,135	185,627	185,627		2		10	10	10.8	0.8	26.3	54	54	167
REGION 6														
Billings Regional Office	216	34,312	34,312						0.0	0.0		0	0	
Canyon Ferry Project	19	3,571	3,571						0.0	0.0		0	0	
East Bench Project Office	89	11,937	11,937						0.0	0.0		0	0	
Fort Park Project	35	6,236	6,236						0.0	0.0		0	0	
Missouri-Oahu Projects Office	218	41,598	41,598						0.0	0.0		0	0	
Missouri-Souris Projects Office	25	17,247	17,247				8	8	58.0	58.0	0.0	348	348	0
Power System Operations Office	37	5,920	5,920						0.0	0.0		0	0	
Riverton Project	29	4,577	4,577						0.0	0.0		0	0	
Upper Missouri Projects Office	92	15,305	15,305						0.0	0.0		0	0	
Yellowtail Project Office	96	12,982	12,982						0.0	0.0		0	0	
Totals and Averages	962	151,685	151,685				6	6	6.5	6.5	0.0	39	39	0
REGION 7														
Denver Regional Office	167	28,888	28,888						0.0	0.0		0	0	
Denver Development Office	25	4,288	4,288						0.0	0.0		0	0	
Kansas River Projects	324	56,924	56,924				8	8	17.6	17.6	0.0	141	141	0
Niobrara-Lower Platte Projects	334	53,440	53,440						0.0	0.0		0	0	
North Platte River Projects	289	46,160	46,160						0.0	0.0		0	0	
South Platte River Projects	167	30,728	30,728				10	10	32.5	32.5	35.6	325	325	71
Totals and Averages	1,296	220,428	220,428	2	2		18	18	9.1	9.1	5.1	82	82	10
CONSOLIDATED TOTALS														
CONSOLIDATED TOTALS	10,744	1,842,171	1,842,171	14	14	0	857	857	7.6	7.6	9.7	465	465	77
TOTALS LAST YEAR (1961)	10,472		21,258,645		162	1		9,076		7.6			427	

* FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

**SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY**

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962.... THROUGH January 31, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	57	7,062	7,062							0.0	0.0		0	0
Columbia Basin Project	122	16,375	16,375							0.0	0.0		0	0
Crowded River Project	2	240	240							0.0	0.0		0	0
Mindoka Project	10	1,502	1,502							0.0	0.0		0	0
Rogue Project	40	7,577	7,577							0.0	0.0		0	0
Yakima Project	12	998	998							0.0	0.0		0	0
Totals and Averages	243	33,760	33,760							0.0	0.0		0	0
REGION 2														
Sacramento Regional Office	6	1,035	1,035							0.0	--		0	--
Distribution System Projects Office	155	24,981	24,981	2	2		57	57	80.1	80.1	0.0	2,282	2,282	0
El Dorado Project Office CVP	88	10,680	10,680							0.0	2,057.6		0	21,605
Trinity River Division CVP	872	153,286	153,286	3	3		142	142	19.6	19.6	46.0	926	926	450
Klamath Project	28	3,820	3,820							0.0	0.0		0	0
Totals and Averages	1,149	193,802	193,802	5	5		199	199	25.8	25.8	61.1	1,027	1,027	611
REGION 3														
Boulder Canyon Project	8	1,474	1,474							0.0	0.0		0	0
Yuma Projects Office	19	5,822	5,822							0.0	0.0		0	0
Totals and Averages	27	7,296	7,296							0.0	0.0		0	0
REGION 4														
Central Utah Projects Office	36	4,427	4,427							0.0	154.1		0	925
Corecani Unit CRSP	45	4,583	4,583							0.0	--		0	--
Flaming Gorge Unit CRSP	356	52,499	52,499							0.0	0.0		0	0
Glen Canyon Unit CRSP	1,364	220,219	220,219	8	8		340	340	36.3	36.3	3.2	1,544	1,544	123
Navajo Unit CRSP	164	26,906	26,906							0.0	0.0		0	0
Florida Project	115	20,365	20,365	2	2		46	46	98.2	98.2	--	2,259	2,259	--
Grand Junction Office	192	27,577	27,577	1	1		10	10	36.3	36.3	0.0	363	363	0
Seedskadee Project Office	35	7,918	7,918							0.0	--		0	--
Weber Basin Projects	83	13,234	13,234							0.0	0.0		0	0
Totals and Averages	2,391	377,728	377,728	11	11		396	396	29.1	29.1	4.8	1,048	1,048	106
REGION 5														
Albuquerque Project Office	9	1,574	1,574							0.0	0.0		0	0
Lower Rio Grande Rehab. Project	134	11,935	11,935							0.0	0.0		0	0
San Angelo Project	511	102,704	102,704	5	5		52	52	48.7	48.7	17.5	506	506	701
Washita Basin Project	123	16,577	16,577							0.0	21.1		0	147
Totals and Averages	777	132,790	132,790	5	5		52	52	37.7	37.7	13.7	392	392	322
REGION 6														
East Bench Project Office	92	10,323	10,323							0.0	0.0		0	0
Missouri-Gahe Projects Office	178	20,629	20,629							0.0	0.0		0	0
Missouri-Souris Projects Office	58	4,546	4,546	1	1		90	90	220.0	220.0	0.0	19,798	19,798	0
Riverton Project	10	851	851							0.0	0.0		0	0
Yellowtail Project Office	341	50,508	50,508							0.0	0.0		0	0
Totals and Averages	679	86,857	86,857	1	1		90	90	11.5	11.5	0.0	1,036	1,036	0
REGION 7														
Kansas River Projects	169	21,566	21,566							0.0	0.0		0	0
Nicholls-Lower Platte Projects	216	20,722	20,722							0.0	54.4		0	1,142
North Platte River Projects		2,555	2,555							0.0	0.0		0	0
South Platte River Projects		1,184	1,184							0.0	0.0		0	0
Totals and Averages	413	46,027	46,027							0.0	17.8		0	374
CONSOLIDATED TOTALS														
	5,679	878,260	878,260	22	22	0	737	737	25.0	25.0	14.3	839	839	217
TOTALS LAST YEAR (1961)	7,438		15,215,753		367	12		90,162		24.1			5,926	

*FATALITIES INCLUDED IN TOTAL DISABLING





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SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

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February 1962

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Front Cover Photo: View showing powerplant after winterizing by enclosing area with plastic-covered panels, Flaming Gorge Dam, Colorado River Storage Project. Reclamation photo P591-421-3652 by F. B. Slote.

SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - February 28, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Alaska District	0.0	0	0.0	211.42
Region 7	4.7	52	2.4	3.08
Region 1	6.2	16	1.0	1.61
Region 6	6.4	29	1.9	3.26
Region 3	7.3	40	2.9	5.42
Region 4	7.4	1,463	108.3	7.60
Region 2	10.4	125	13.0	3.72
Region 5	13.6	303	41.2	3.29
Totals to Date 1962	7.1	298	21.2	3.47
Totals Last Year	7.6	427	32.5	4.64

There is only a slight reduction in the frequency rate to date for 1962 over last year's record.

*Injury index is equal to the frequency rate times the severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - February 28, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 7	0.0	0	0
Region 3	0.0	0	0
Region 6	11.2	636	0
Region 1	12.9	39	0
Region 4	22.0	727	0
Region 5	24.6	222	0
Region 2	47.1	1,130	0
Totals to Date 1962	24.2	633	0
Totals Last Year	24.1	5,926	12

ACCIDENT REVIEW

FALLS

Employer: Contractor

Activity: Removing form panel.

Accident Situation and Occurrence: A carpenter was removing a panel to let a skip through the opening. The panel was about half removed when another panel dropped through the opening. The employee tried to keep the panel from falling, but was pulled off balance and fell approximately 20 feet. He received a fracture of the left arm and the lost time was estimated at 50 days.

Cause Determination: It is apparent that this work operation lacked planning. The employee should have been furnished with a safety belt and been properly tied off to a rope safety line.

HANDLING OBJECTS

Employer: Government

Activity: Setting survey points.

Accident Situation and Occurrence: Employee was setting survey points for construction work. There was an upright-type sandblasting machine in the way which he tried to move. The machine became unbalanced and fell on the employee's leg, resulting in a bone fracture. Time lost was estimated at 30 or more days.

Cause Determination: This accident could have been prevented by notifying the contractor that his equipment was in the way. Then the contractor would have moved it with sufficient help to safely handle the heavy sandblaster. Never attempt to move or lift heavy object without obtaining assistance.

FALLS

Employer: Government

Activity: Walking down excavated canal slope.

Accident Situation and Occurrence: The employee was going to enter the excavated canal prism where the earthbanks had been recently sprinkled. As he stepped on the wet slope, his feet slipped and he fell to the bottom of the canal. Employee sustained a chipped bone

and torn ligaments to the right ankle. Time lost was estimated at 75 days.

Cause Determination: The employee could have entered the canal near the excavating machine where the slopes were dry enough to walk down safely. Close attention must be given to footing on slopes and hazardous shortcuts should not be taken.

FALLS

Employer: Government

Activity: Climbing wood-pole structure on transmission line.

Accident Situation and Occurrence: With the use of a safety belt and safety strap, the employee was climbing a wood-pole structure to check the sag of the wires. Upon reaching the bottom of the cross brace, the employee unbuckled to raise the safety strap above the brace. A sudden gust of wind caused the employee to lose his balance and fall about 30 feet to the ground. He suffered multiple fractures and it was estimated that he would be disabled for 6 months.

Recommendation: It was recommended that climbing inspectors be provided with a second safety strap for use when conditions of high winds, or of ice on poles are present. The second safety strap will permit the climber to be belted to the pole at all times while passing over guys, cross braces, or other climbing obstructions.

* * * * *

FALLING OBJECTS

Employer: Government

Activity: Inspection of grouting work.

Accident Situation and Occurrence: Employee was inspecting grouting operations under the concreting trestle when a piece of concrete fell from above and struck him on the left leg and foot. He received contusions and abrasions and the time lost was 7 days. His safety-toe boots prevented a more serious injury to the foot.

Cause Determination: This type of accident can be prevented by periodic inspections to remove concrete spillage or other loose objects from the trestle. Employees working above must take necessary precautions to prevent objects from falling on employees at lower elevations.

* * * * *

FROM THE FIELD

SAFETY AWARD TO KANSAS RIVER PROJECTS OFFICE

The Department of the Interior Certificate of Safety Achievement Award has been presented to the employees of the Kansas River Projects Office. They successfully completed a total of 501,978 man-hours of work without a disabling injury during the period April 12, 1960-January 12, 1962.

* * * * *

Niobrara-Lower Platte Projects: To date all of our field supervisors have satisfactorily completed the training course in first aid instruction. One hundred and fifty-six Bureau of Mines certificates have been issued to project employees to date.

Ysleta Irrigation Branch--Rio Grande Project: Two safety meetings for supervisors were held during the month. A new inspection and evaluation sheet for crew foremen was distributed and instructions were given for the use of this form. The form helps a supervisor to review his equipment, tools, and personnel in terms of the safety program. Also supervisors were urged to use safety devices and equipment provided and not to shortcut safety measures. Those present were instructed to spend extra time with new employees stressing safety measures and the need for prompt reporting of all injuries. It was reported that crew foremen had conducted 20 on-the-job safety meetings at which prepared talks were given.

Albuquerque Project: A staff meeting was held in the Project Superintendent's Office, February 12, with eight of the Division Heads attending. Discussed were: the dates for the Bureau of Mines first aid training courses; use of protective equipment; foremen 5-minute weekly safety meetings; and hazards of lifting heavy debris out of the canals when the first run of water is made in March. Five supervisor's meetings were held during the month at divisional offices. Discussed were: daily check of work area by the foreman for hazards; weekly tool check; proper grounding of electrical handtools; and hazards of removing debris from canals during irrigation season. Twenty-three 5-minute foremen safety meetings were held during the month covering pertinent safety instructions. Safety inspection of all shops, garages, offices, and crew trucks was made. Grounded-type plugs and plug-ins have been installed in four shops to prevent electric shock to employees using electrical handtools.

South Platte River Projects: At a safety meeting, H. J. Fisher, Superintendent of Transmission Lines and Substations, gave a review of procedures for grounding of transformers and switch tagging in case of outages at substations. Tested rubber gloves were exchanged at Green Mountain, Granby and Estes Plants, and Green Mountain, Western Section line crew.

Logan Development Office: The standard 10-hour Bureau of Mines first aid course was completed by 10 employees during the month. In addition, a 2-hour session devoted to general safety instructions was also conducted in accordance with the outline furnished by the Regional Office.

Lower Rio Grande Rehabilitation Project: The construction on laterals and pipelines started again on February 1. As the contractors have been idle for 2 months, each contractor was contacted and a safety meeting held. Contractors are making it mandatory for all employees to wear hard hats in the construction area including the truck drivers for the concrete supplier. The contractors have started their toolbox meetings.

Columbia Basin Project: There were 10 monthly supervisory safety meetings and some 90 weekly crew safety meetings held during February, with a wide variety of safety subjects discussed. An officer of the Washington State Patrol spoke to 40 employees from the Ephrata Office on seat belts and defensive driving. Six project employees completed a supervisor's safety training course conducted by the U. S. Department of Labor in Spokane. A total of 52 field supervisors and 30 nonsupervisory employees successfully completed the Bureau of Mines first aid course during the past 2 months. This completes the first aid training in the Construction and Irrigation Divisions for this season. Several additional classes will be held for Power Field employees during March.

Folsom Field Division: The chairman reported that the use of safety belts in the operator's pickups was discussed at the last supervisory safety meeting. As a result, the garage mechanic was instructed to install seat belts in all of the pickups for two passengers. Seat belts will also be placed on the front seats of all other vehicles.

Curecanti Unit--CRSP: Arrangements have been made with doctors in Montrose and Gunnison for the field employees to receive their annual Rocky Mountain Spotted Fever inoculations. These inoculations are necessary throughout the area because of the high rate of infested ticks.

Central Snake Projects: A supply of the new lightweight cap-type hard hats have been purchased for the project. This type hat seems to appeal to the men and no difficulty has been encountered in getting them to wear these hats. A new type grinding hood has been purchased for the turbine work at Anderson Dam. This hood completely covers the head and shoulders and has a built-in dust filter. On previous jobs of this nature, frequent eye injuries occurred from flying particles getting under the goggles. This type injury appears to have been eliminated by use of the hood.

Glen Canyon Unit--CRSP: Ninety-four project employees have been certified for National Safety Council Safe Driver Awards and 204 have been certified for Region 4 Safety Award Cards.

Sacramento Regional Office: The Northern California Chapter of the Federal Safety Council was organized in Sacramento with Regional Safety Engineer R. A. Breckenridge being appointed as program chairman for the year.

Boulder City Regional Office: Regional Safety Officer K. E. Sullivan has been appointed by Governor Grant Sawyer to serve on the State of Nevada off-the-job Safety Committee.

LIFTING

(Suggested for use at weekly tool-box safety meeting)

Here is a pattern for a short talk on lifting coupled with appropriate demonstrations, which should help convince employees the safe method of lifting really makes sense and that they are needlessly exposing themselves to injury when they lift the wrong way.

When you have a lifting job to do, do you know how? Are you prepared? First, there's always the chance of something slipping and landing on your toes. Safety shoes are not expensive and will offer protection. Handling material with rough or sharp edges calls for good, tough gloves.

Now, suppose you're going to lift a 40-pound load. Does its position give you room to lift without awkward twisting of the body? Twisting while lifting can cause severe injury. Why not slide the object to an open space? Now, size up the load--for the best holds, weak spots, or other faults that might cause trouble. Be sure your footing is good, then give the load a little "heft." If it is heavier than you thought and you can't handle it, get help.

We're ready to lift now. You've heard it said many times, "bend the knees; keep the back straight"--but why. Here's a stunt that will illustrate the point. Take a light chair and hold it straight out at arm's length; now bring it in and hold it close to the body. Notice the difference? The weight is now carried by your whole body, not just your arm muscles. You have the awkward, off-balance position when you bend at the waist and lean over with the back horizontal. The load is too far from the center of balance and all the strain is on the lower back muscles.

When we say "bend the knees," we don't mean to squat until you sit on your heels--you won't have any leg power to raise a load from

that position. Your position at the start of the lift should be more of a "crouch" so that the power of your leg muscles can be exerted.

When we say "keep the back straight" that doesn't mean straight up like a flagpole, for you'd be off balance. It means reasonably straight, just so the back muscles won't be doing the work.

Now for the lift. Place your feet on either side of the load and bring the shoulders directly over the load when you lift. Bend your knees at about right angles and lean forward just enough to grasp the load--but do not curve the back any more than necessary. Get a firm grasp on opposite corners of the load, straighten your legs, and raise with a smooth even motion--never a sudden jerk or twist. As you reach standing position, your back straightens to normal position, and the load is brought close to the body in comfortable carrying position.

From Columbia Basin Project "Safe Worker Bulletin"
February 1962

FROM U. S. DEPARTMENT OF LABOR NEWS RELEASE

Work Injuries Decline Slightly in 1961

Deaths and disabling injuries resulting from work accidents declined in 1961. There were approximately 13,500 deaths, and about 1,930,000 disabling injuries, according to preliminary estimates prepared by the U. S. Department of Labor's Bureau of Labor Statistics. In 1960 there were 13,800 deaths and 1,950,000 disabling injuries.

The slight decline in injuries and deaths, with employment holding at about the same average level as in 1960, resulted in lower injury rates. Disabling injuries occurred at a rate of 30.1 per 1,000 workers in 1961, compared with a rate of 30.4 in 1960. The only other lower rate on record was 29.6, in 1958. The death rate was 21 per 100,000 workers in 1961, which was below the previous record of 22, that had prevailed for the past 3 years.

Each of the injuries included in these estimates disabled the worker for at least 1 full day or more. In addition to the 13,500 deaths, approximately 80,500 injuries resulted in some permanent physical impairment, ranging from the partial loss of the use of a finger or toe to complete inability to work at any gainful employment. The great majority (1,836,000), however, were only temporary in nature and resulted in no permanent ill effects. These latter injuries averaged about 17 days of disability per case.

Altogether, these work injuries and deaths resulted in about 40 million man-days of disability during 1961. When the future effects of the deaths and permanent impairments are evaluated and added to the immediate loss, the total will amount to approximately 163 million man-days of disability. This is equivalent to a year's full-time employment of about 525,000 workers.

The principal decrease in injuries occurred in manufacturing. Average employment and total hours of exposure to job injuries decreased about 3 percent. The injury rate for 1961 was about 4 percent below that for 1960. The resulting estimate of 375,000 injuries was about 6 percent below the 1960 total.

In agriculture, mining, transportation, and public utilities there were modest decreases in the number of injuries, paralleling fairly closely the declines in employment.

Injuries in contract construction remained virtually unchanged, though there was a 4 percent decline in employment. As a result, it is estimated the injury rate was up about 5 percent.

Increased employment in finance, service, and State and local government resulted in modest increases in the volume of injuries, without any appreciable change in injury rates. Injuries in Federal Government employment decreased slightly.

Reprint from

Reclamation Instructions

Series 350 General Instructions

Part 365 Safety

CHAPTER 3 FIRST AID AND MEDICAL ATTENTION

365.3.1

- .1 General Requirements. Adequate facilities shall be provided and satisfactory arrangements made to provide prompt, efficient first-aid treatment and necessary medical and hospital care for injuries.
- .2 Medical Treatment. Injuries to Government employees, sustained during the period of official duties, shall be treated by United States medical officers and at United States hospitals; or, if these are not available, by physicians and at hospitals designated by the Bureau of Employees' Compensation.
 - A. Physician. In case of emergency or nonavailability of a designated physician, any physician licensed to practice medicine may be employed. It is the responsibility of the head of each office to see that the proper physician and the proper hospital to be consulted are generally known at his establishment, so that treatment can be secured without delay.
 - B. Physician's Report. In referring an injured employee to a physician, an appropriate form or franked post card shall be used to secure pertinent information relative to the injury, i. e., physician's opinion as to whether or not the injury is occupational, probable length of disability, etc.
- .3 Procedure in Case of Accident. When an accident occurs, the following procedure shall be followed:
 - A. First aid shall be administered as soon as possible, no matter how slight the injury. A small wound can become infected and result in permanent disability if neglected.
 - B. The immediate supervisor shall be notified without delay. If the injured employee is able, he should personally report the accident. If he is not able, it is incumbent upon other workers at the scene to do so.
 - C. Names of witnesses of the accident shall be noted.
 - D. If the injury warrants, medical or hospital treatment shall be secured.
 - E. The proper report or reports shall be filled out and submitted.
- .4 First-aid Stations. On large projects, remote projects, or where a large number of public visitors may be expected, arrangements shall be made for one or more first-aid stations or dispensaries staffed by competent registered nurses. (For major construction projects, refer to the publication entitled, "Safety Requirements for Construction by Contract.") A first-aid station or dispensary, serving a maximum of 400 employees, shall be stocked with the following equipment and supplies as a minimum:
 - A. Equipment.

2 Basins, wash, enamel or stainless steel	1 Scissors, 7-inch
4 Blankets	1 Stool
2 Chairs	1 Stretcher
1 Cot	1 Table, 2- by 3-foot
2 Pillows	1 Tourniquet
	Tweezers
 - B. Supplies.

Absorbent cotton	Alcohol, benzol, gasoline with no tetraethyl lead, or ether
Adhesive compresses, assorted sizes	Applicators
Adhesive tape, 1/2-inch and 1-inch	Aromatic spirits of ammonia

12 Bandages, 1-inch
12 Bandages, 2-inch
Burn ointment
Boric acid solution

12 Dressings, sterile, 2- by 2-inch
12 Dressings, sterile, 4- by 4-inch
Iodine, in glass-stoppered bottles

- .5 First-aid Kits. Small crews working at a distance from headquarters or from the main body of workmen shall be equipped with standard first-aid kits, and at least one man in each crew shall have had first-aid training. When purchasing first-aid kits, dustproof and waterproof containers should be specified. All crews shall be supplied with snake-bite kits when their work takes them into areas infested by poisonous snakes. Crews working in areas in which poison oak, ivy, or sumac are found should be instructed in proper hygiene and supplied with proper protective creams.
- .6 Ambulance Service. Provisions shall be made to transport seriously injured persons to the hospital or doctor by ambulance. If satisfactory arrangements cannot be made with local, private, or public ambulance services, an ambulance shall be provided and kept available on the job at all times.
- .7 Preventive Inoculations. Under certain conditions, preventive inoculations for Rocky Mountain spotted fever, poison ivy, poison sumac, typhoid fever, etc., may be obtained from local physicians and payment may be made to the physicians from appropriated funds.
- A. Inoculations shall be obtained at Government expense only in those locations where the United States Public Health Service is unable or not available to administer free inoculations.
- B. Inoculations for immunization against infection from spotted fever, plant poisons, or contagious diseases shall be administered to Bureau employees only when it can be definitely shown that conditions in a particular area warrant preventive inoculations and that such inoculations are necessary to protect the public health and interests of the Bureau of Reclamation.
- C. Inoculations shall be administered only to those Bureau personnel whose official duties continually expose them to infection from spotted fever, plant poisons, or contagious diseases.
- D. When preventive inoculations are to be administered by a local physician, a statement shall be obtained from him prior to the inoculations indicating the conditions prevailing in the particular area and the need for such inoculations. One such statement may cover all employees stationed in the particular area who are eligible to receive the inoculations.
- E. All requests for preventive inoculations to be administered by local physicians shall be approved by the Regional Director prior to the inoculations.
- F. Payment shall be made to the local physician upon receipt of his certified invoice or properly prepared SF-1034 together with his statement required under Subparagraph D above.
- G. Inoculations shall be entirely for preventive purposes. Curative inoculations for injuries or diseases received during the performance of official duty shall be obtained in accordance with the current regulations of the Bureau of Employees' Compensation.

CHAPTER 4 ACCIDENT INVESTIGATION AND
SAFETY REPORTING PROCEDURES

365.4.1

- .1 General. Careful investigation and accurate recording and reporting of accidents are essential ingredients of an effective safety program. Analytical reviews of safety statistics provide a basis for timely improvements. Bureau offices shall maintain complete records of all accidents, fires, and injuries and shall submit the reports described herein. For reports required of contractors, refer to Bureau publication entitled "Safety Requirements for Construction by Contract."
- .2 Accident Investigation. The fundamental aim of safety investigation is to safeguard individuals and property from unnecessary danger by locating and defining the causes so that they may be corrected to avoid recurrence. The affixing of responsibility is not a characteristic of safety investigation.

The Office of the Secretary reserves investigative jurisdiction of all accidents involving irregularities, offenses, or misconduct which are of a serious nature. These shall be reported immediately to the Commissioner for referral to the Office of the Secretary. While it is impossible to anticipate, by definition, all such offenses, broad categories may be stated as follows: (1) irregularities in the performance of official duties in violation of Federal statutes; (2) matters involving any irregularity in use of Government property; (3) matters pertinent to performance of official duties and involving violation of regulations promulgated by the Office of the Secretary, the Bureau, and other Federal agencies when such regulations are applicable to the Bureau; and (4) matters involving personal misconduct in instances where the conduct is so notorious as to reflect adversely on the Government. The term "irregularity" as used herein is intended to cover wrongful acts which are the products of malintent, neglect of duty, or irresponsible performance. It will be noted that a distinguishment is made between "official misconduct" and "personal misconduct." The first of these terms refers to actions of the employees as to matters occurring in the course of official functions; the second term refers to private behavior outside of official duties and having no relation to work of the Bureau.

- .3 Operating Office Monthly Report of Safety Activities, Symbol G13. Each operating office shall prepare a monthly report of safety activities consisting of the items listed below. The report is to be transmitted to the Regional Director not later than the 10th day following the close of the month, with one copy to the Assistant Commissioner and Chief Engineer attention D-206.
- A. Informal Narrative Report. It is to consist of a brief report of the safety activities during the month, including specific reference to the number of supervisory safety meetings held, the number of weekly "on-the-job" 5-minute safety meetings conducted, and the names of supervisors who have successfully completed an approved course in first aid. This report shall include minutes of the monthly safety committee and supervisory meetings, indicating attendance and subjects discussed.
- B. Lost Time Accident Summary, Form 7-125. This form (Figure 1) is a statistical summary of lost time accidents covering both Government and contractor operations. Each office shall indicate on the form in Column 7 the applicable work or operation classification as listed below:

Government Forces

Administration
Construction
Design
Investigation
O&M Irrigation
O&M Power

Contractor Forces

Canals
Concrete Dams
Earth Dams
Tunnels
Transmission Lines
and Substations
Miscellaneous

365.4.3C

CHAPTER 4 ACCIDENT INVESTIGATION AND
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- C. Lost Time Accident Report, Form 7-1433. This form (Figure 2) shall be prepared for each lost time accident occurring to an employee of the Government or of a contractor. If the injured employee has not returned to work, the estimated lost time should be shown in order not to delay submission of the monthly report. Estimates of time lost shall be corrected on subsequent monthly reports (Form 7-125).
- D. Summary Report of Motor Vehicle Accidents, Form 7-1471. This form (Figure 3) provides a record of monthly motor vehicle accident experience.
- 4 Regional Monthly Report of Safety Activities. Each region and the Alaska District shall submit to the Assistant Commissioner and Chief Engineer, attention D-206, not later than the 15th of the succeeding month, a Regional Monthly Report of Safety Activities consisting of:
- A. Regional Lost Time Accident Summary, Form 7-1696. This form (Figures 4 and 5) is a monthly statistical summary of lost time accidents to Government and contractor employees. Lost time accident data are included, both monthly and cumulatively, for established operating offices within the respective regions and the Alaska District. The report is to be compiled monthly from data submitted by operating offices on Form 7-125. On the reverse side of the form, the regional cumulative accident experience shall be summarized by both Government and contractor operations under the appropriate activity description, as indicated in Figures 4 and 5.
- B. Regional Summary Report of Motor Vehicle Accidents, Form 7-1471. See Paragraph 365.6.4 for instructions.
- C. Monthly Narrative Report. This should be a brief narrative report summarizing the month's safety activities. The report should include: (1) the Bureau facilities within the region inspected by the Regional Safety Officer, and (2) a copy of the minutes of the monthly regional safety committee meeting.
- 5 Report of Serious Accidents and Fatalities, Symbol G11. Accidents are identified as serious when they result in death or permanent injury, or when damage to real property from causes other than fire amount to \$2,500 or more, or whenever a claim for injury or tort is filed. Standard Form 92, Supervisor's Report of Accident (Figure 6), shall be used to report all accidents falling within the purview of this paragraph, except motor vehicle or aircraft accidents. (See Chapter 365.6 and Paragraph 365.4.7.)
- A. Serious Accidents Involving Government or Contractor Personnel on Facilities Operated by and Under the Direct Control of the Bureau. Teletype notification shall be made to the Commissioner, attention 540; the Assistant Commissioner and Chief Engineer; and the Regional Director. Further, when possibility of a tort claim exists, the Regional Solicitor should be immediately notified by the Regional Director.
- Following teletype notification, the operating office Safety Officer shall conduct a thorough investigation of the accident and prepare a narrative report of his findings, including appropriate sketches, statements of witnesses, probable cause, and recommended preventive action. The operating office head shall specifically request supervisors and other employees to cooperate with the Safety Officer in the investigation and determination of the facts pertinent to the accident. A narrative report shall be prepared and distributed as set forth below:

CHAPTER 4 ACCIDENT INVESTIGATION AND
SAFETY REPORTING PROCEDURES

365.4.5B

- (1) General Statement. (a) Name, age, and occupation of injured or deceased person, length of service with present employer, experience in current occupation; (b) name of employer and activity involved in; (c) accident experience of employer; and, (d) first-aid, medical, and ambulance facilities available.
- (2) Description of Accident. (a) Time and place of accident; (b) weather conditions; (c) operation in which the injured or deceased person was engaged at the time of the accident, with a statement as to whether the work was normal to the operations being performed; (d) personnel and equipment involved; (e) description of the accident (including photographs and/or sketches as necessary).
- (3) Rescue, First-aid and Medical. (a) Descriptions of rescue and removal measures; (b) first-aid and medical treatment administered; (c) time of availability of first-aid and medical attention; (d) statement of attending physician and coroner's report, if applicable and available.
- (4) Cause of Accident. List and explain any mechanical, physical, and personal causes contributing to the accident.
- (5) Recommendations for Preventive Action. (a) Action recommended to prevent a recurrence of this type of accident; (b) recommended revisions in the health and safety program.
- (6) Signature and Review. The report shall be signed by the investigating officer, and, following review, by the Bureau official in charge.
- (7) Distribution. Original is to be submitted to the Regional Director with three copies of both the narrative report and SF-92, Supervisor's Report of Accident (Figure 6) submitted to the Assistant Commissioner and Chief Engineer, attention D-206. The Assistant Commissioner and Chief Engineer will forward two copies of both the narrative report and SF-92 to the Commissioner attention 540.

For contractor accidents a copy of the report, without copies of the witnesses' statements, shall be submitted to the contractor with a letter requesting appropriate corrective action to prevent a recurrence. No further distribution of the report outside of the Bureau may be made without specific authorization of the Commissioner.

- B. Serious Accidents, Including Drownings, Involving the Public on Facilities Operated by and Under the Direct Control of the Bureau, Including Serious Accidents to the Public which Involve Bureau Personnel or Bureau Property. Teletype notification is required as in Subparagraph A above.

The investigation shall be conducted by a Bureau representative appointed by the office head. Three copies of the investigating officer's written report, together with three copies of SF-92, shall be submitted to the Assistant Commissioner and Chief Engineer, attention D-206. The Assistant Commissioner and Chief Engineer will forward two copies of the above to the Commissioner, attention 540.

- C. Serious Accidents to the Public, Including Drownings on Facilities Constructed by the Bureau but Operated by Others, such as Water Users or State or County Agencies, etc. Neither a teletype notice nor a narrative report is required.

365.4.5D

CHAPTER 4 ACCIDENT INVESTIGATION AND
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A report on SF-92 shall be submitted in triplicate to the Assistant Commissioner and Chief Engineer, attention D-206. The Assistant Commissioner and Chief Engineer will forward two copies of the SF-92 to the Commissioner, attention 540. This report is for information of the Commissioner and the Assistant Commissioner and Chief Engineer, and it may be completed from information obtained from the operator of the facility, a law enforcement agency, etc. A formal investigation is not required unless, in the opinion of the Regional Director or office head, such investigation is warranted.

- D. Regional Investigation. Regional Safety Officers shall personally investigate all fatal accidents to Government employees occurring within their respective regions. Those investigations will not take the place of the investigations conducted by the investigating officer. However, they shall be carried out with the full cooperation of operating office supervisors. The Regional Safety Officer's report of his findings and recommendations shall be submitted to the Regional Director with a copy to the Assistant Commissioner and Chief Engineer, attention D-206.
- .6 Supervisor's Report of Accident, Standard Form 92. As provided in Paragraph 365.4.5, serious or fatal accidents to Bureau and contractor personnel shall be reported on SF-92, Supervisor's Report of Accident (Figure 6). This form shall also be used to report serious or fatal accidents to persons outside the Government that occur on Reclamation facilities, or on facilities constructed by the Bureau but operated by other organizations. In each case, three copies of SF-92 shall be furnished to the Assistant Commissioner and Chief Engineer, attention D-206. Two copies of the report form will be forwarded by the Assistant Commissioner and Chief Engineer to the Commissioner, attention 540.
- A. In the event of death or serious injury to persons outside the Government, as noted above, or serious damage to private property, the appropriate Tort Claims Officer and the nearest Solicitor's office shall be notified promptly.
- B. Standard Form 92 shall be used to report accidents involving property damage to Government-owned or leased property (exclusive of fire damage, boat, motor vehicle, or aircraft accidents) when the damage exceeds \$100. One copy of the form shall be furnished to the Assistant Commissioner and Chief Engineer, attention D-206, when submitting the regular monthly report. See Subparagraph 365.4.8A for quarterly summary report of property damage accidents requiring use of Form 7-1627.
- .7 Report of Fires. All fires resulting in property damage or personal injury shall be reported to the Regional Director on Form DI-210, Individual Fire Loss Report, Symbol G12 (Figure 7). A copy of the report shall be submitted to the Assistant Commissioner and Chief Engineer, attention D-206. Should the fire cause death, serious injury, or damage amounting to \$5,000 or more, a formal investigation shall be conducted and reports submitted in accordance with Subparagraph 365.4.5A-D above. However, Form DI-210 shall be substituted for the SF-92 when the loss is confined to property damage.
- .8 Quarterly Summary Report of Accidents. Each regional office and the Alaska District shall submit to the Assistant Commissioner and Chief Engineer, attention D-206, not later than the 15th of the month following each quarterly period, a Quarterly Summary Report. One copy only need be submitted. The report shall consist of the following items:

CHAPTER 4 ACCIDENT INVESTIGATION AND
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365.4.8A

- A. Quarterly Summary Report of Property Damage from Accidents, Form 7-1627. This form (Figure 8) is to be used for listing Bureau property damage from accidental causes (excluding Acts of God) in excess of \$100 and shall be reported for each calendar quarter.
 - B. Quarterly Summary Report--Fire Damage, Form 7-1628. This form (Figure 9) is for reporting all fires, exclusive of forest and range fires, involving damage or loss to Government-owned or leased property during each calendar quarter.
 - C. Quarterly Summary Report of Motor Vehicle Accidents, Form 7-1629. This form (Figure 10) is a summary report of every accident involving Government-owned or leased motor vehicles that results in death, injury, or damage to any vehicle requiring repair cost of \$100 or more.
 - D. Quarterly and Cumulative Report of Accidents, Form DI-450. This form (Figure 11) is a statistical summary of all work injuries (disabling, non-disabling, and fatal) occurring during the quarter, plus the fire damage, tort claim, motor vehicle, and property damage costs obtained from the above reports.
- . 9 Fire Prevention Inspection Report, Symbol G17. All buildings, storage yards equipment, and other property shall be inspected monthly to detect and eliminate fire hazards, except that living quarters of camps shall be inspected semiannually. These inspections must include an examination of all fire-fighting equipment. Once each year, on or before December 31, a formal report of one such inspection shall be submitted to the Regional Director, using Federal Fire Council Form No. 6, Fire Hazard Inspection Report, as a guide for the inspection. Only the original copy of the report need be submitted. When fire inspections are made of warehouses, automotive shops, and similar buildings, provision should be made for joint inspection with a representative of the official responsible for activities carried on within the building.
- . 10 Boating Accident Report, Form CG-3865. A U. S. Coast Guard Boating Accident Report (Figure 12) shall be prepared by the operator of any Government-owned or leased boat involved in an accident resulting in loss of life, injury causing incapacitation over 72 hours, or property damage in excess of \$100. The original is submitted to the nearest Officer-in-Charge, Marine Inspection, U. S. Coast Guard, with one copy to the Assistant Commissioner and Chief Engineer, attention D-206.
- . 11 Pilot Operator's Aircraft Accident Report, Form ACA-2400. A CAA Pilot Operator's Aircraft Accident Report (Figure 13) shall be submitted for any accident in flight (between start of engine to parking) involving any Government-owned or leased aircraft of United States registry of 12,500 pounds gross weight and under, (1) resulting in serious or fatal injury, or (2) where cost of repair is \$100 or more, or (3) upon request of a CAA representative. Mail or deliver the report to the nearest CAA Aviation Safety District Office, or CAA Regional Office, with copy to the Assistant Commissioner and Chief Engineer, attention D-206.
- . 12 Reporting Terms. The following terms are defined for safety reporting purposes:
- A. Accident. An accident may or may not result in personal injury. However, the term is sometimes used almost interchangeably with the term "injury"; thus a "lost time accident" or a "lost time injury" may mean the same thing. Strictly speaking, an accident is the immediate direct cause--the event or occurrence--while an injury is the result.

365.4.12B

CHAPTER 4 ACCIDENT INVESTIGATION AND
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- B. Lost Time Injury. A lost time injury is defined as an injury so serious, in the opinion of a doctor, that it is impossible for the injured person to return to work on the day following the day on which the injury occurred, or the next regular shift following the shift on which the injury occurred. It is also counted as a lost time injury if, due to infection or other complication, it becomes impossible for the injured person to work on some later day. Lost time injuries may be:

Fatal injuries
Permanent total disabilities
Permanent partial disabilities
Temporary disabilities

- C. Days Lost. In case of a temporary disabling injury, the lost time is computed in full calendar days, including Saturdays, Sundays, and holidays, but not counting the day on which the injury occurred or the day on which the injured employee returned to duty. In case of fatalities and permanently disabling injuries a "charge" is made, according to the table of standard "Time Charges" in place of actual days lost (see Paragraph 365.4.8).

- D. Frequency Rate. The frequency rate is defined as the number of lost time injuries per million man-hours of exposure.

$$\text{Frequency rate} = \frac{\text{Number of injuries} \times 1,000,000}{\text{Number of man-hours of exposure}}$$

- E. Severity Rate. The severity rate is defined as the number of days of lost time per million man-hours of exposure.

$$\text{Severity rate} = \frac{\text{Number of days of lost time} \times 1,000,000}{\text{Number of man-hours of exposure}}$$

- F. Multiple-injury Accidents. When more than one person is injured in a given accident, each injured person is counted separately.

- G. Doubtful Cases. When in doubt as to whether a given case should be counted an injury, the decision shall be made in accordance with the ruling of the Workmen's Compensation Commission having jurisdiction or, in the case of Government employees, the Bureau of Employees' Compensation. Compiling of statistics on lost time accidents should be in accordance with the American Standards Association pamphlet Z16.1-1954, "Recording and Measuring Work Injury Experience."

- H. Estimates of Lost Time. When an injured employee has not returned to work by the end of the month, reports should not be delayed waiting for definite information as to the disposition of the case, but an estimate shall be made of the probable lost time. Any slight discrepancy between the estimated lost time and the actual lost time may be disregarded, but important differences should be reported subsequently and adjustments made in the cumulative totals on Form 7-125.

- .13 Evaluation of Severity. The accompanying table shall be used to determine the scheduled time charges in numbers of days.

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CHAPTER 4 ACCIDENT INVESTIGATION AND SAFETY REPORTING PROCEDURES

365.4.14

<u>Nature of injury</u>	<u>Days charged</u>
Death	6,000
Permanent total disability	6,000
Loss of member--traumatic or surgical:	
Arm, any point above elbow including shoulder joint	4,500
Arm, any point above wrist and at or below elbow	3,600
Hand, at wrist	3,000
Foot, at ankle	2,400
Leg, any point above knee	4,500
Leg, any point above ankle and at or below knee	3,000
One eye (loss of sight), whether or not there is sight in the other eye	1,800
Both eyes (loss of sight), in one accident	6,000
One ear (complete loss of hearing)	600
Both ears (complete loss of hearing), in one accident	3,000
Unrepaired hernia	50

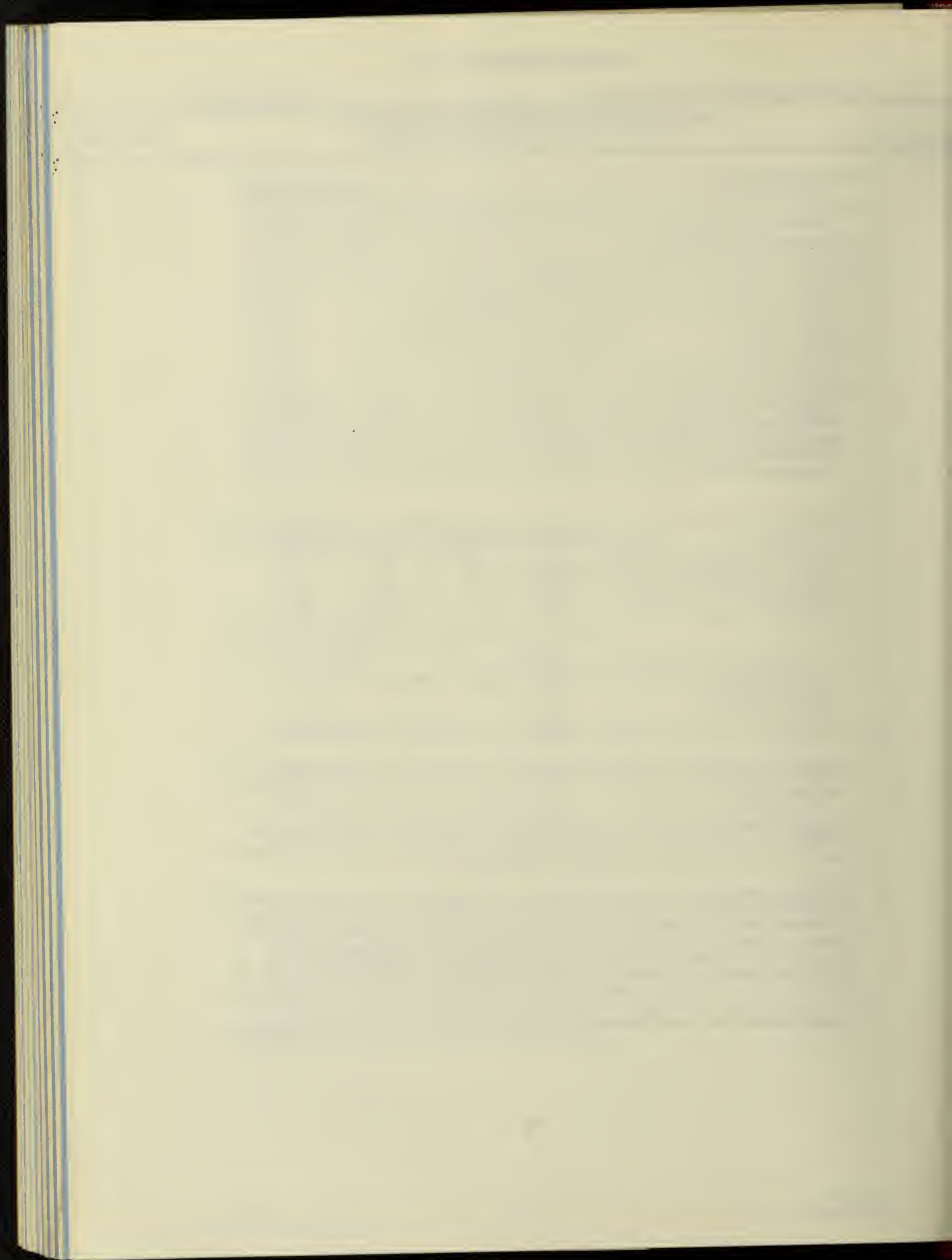
Hand	Thumb	Fingers			
		Index	Middle	Ring	Little
Distal phalange	300	100	75	60	50
Middle phalange	---	200	150	120	100
Proximal phalange	600	400	300	240	200
Metacarpal	900	600	500	450	400

Foot	Great toe	Each of other toes
Distal phalange	150	35
Middle phalange	---	75
Proximal phalange	300	150
Metatarsal	600	350

Note 1. Days shown in table are charged for complete dismemberment. If the bone is not involved, use the actual days lost and classify as a temporary total disability.

Note 2. The charge for loss of use shall be a percentage of the scheduled charge, corresponding to the percentage loss of use of the member or part of member involved as determined by the physician.

- .14 Accident Cost Data. Evaluation of the cost of injuries and accidents is essential to accident control and prevention. The costs of investigation, medical treatment, and compensation required on Form 7-125 are usually obtainable from operating office and Bureau of Employees' Compensation (B.E.C.) records. Cost data relative to disabling injuries, nondisabling injuries, and fatalities occurring to Government employees shall be reported quarterly on Form DI-450. The costs used in filling out item 1 of this form are estimated costs based upon past Bureau experience, as indicated in the conversion table prepared and distributed annually by the Department. (See Figure 11.)



DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH February 28, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	237	36,024	77,736						0.0	0.0		0	0	
Denver Office & Laboratories	1,412	214,624	460,848	1	1		28	28	4.6	2.2	0.0	130	61	0
Alaska District	30	4,382	9,231						0.0	0.0	0.0	0	0	0
REGION 1														
Boias Regional Office	275	38,741	83,244						0.0	12.5		0	12	
Central Snake Projects	43	5,751	12,719						0.0	61.8		0	124	
Chief Joseph Dam Project	32	5,388	8,712						0.0	0.0		0	0	
Columbia Basin Project	835	133,600	285,032		1			1	3.5	21.4		3	146	
Crooked River Project	0	0	3,150						0.0	0.0		0	0	
Hungry Horse Project	51	8,839	18,024						0.0	0.0		0	0	
Minidoka Project	168	22,771	38,520	2	2		7	7	87.8	51.9	0.0	307	182	0
Rogue Project	31	5,740	13,110						0.0	0.0		0	0	
The Dalles Project Office	28	4,702	9,734						0.0	0.0		0	0	
Yala Project	13	1,916	4,004						0.0	0.0		0	0	
Yakima Project	29	3,938	8,531						0.0	0.0		0	0	
Totals & Averages	1,507	231,390	484,780	2	3		7	8	8.6	6.2	15.7	30	16	86
REGION 2														
Sacramento Regional Office	579	88,008	189,384	1	1		2	9	11.4	15.8	6.6	23	48	13
Salmon Field Division	69	10,688	21,303									0	0	
Fresno Field Division	148	22,496	49,952		1			27	20.0	20.5		541	1,212	
Shasta Field Division	112	17,424	37,808						0.0	0.0		0	0	
Tracy Field Division	178	28,530	60,990		2			36	32.8	0.0		590	0	
Distribution System Projects CVP	27	6,227	13,790						0.0	0.0		0	0	
El Dorado Projects Office CVP	45	6,840	14,584						0.0	58.4		0	175	
Red Bluff CVP	53	6,872	13,912						0.0	0.0		0	0	
San Luis Unit CVP	195	23,560	50,048						0.0	0.0		0	0	
Trinity River Division CVP	280	42,660	94,236						0.0	11.0		0	274	
Klamath Project	43	6,670	14,633						0.0	61.2		0	1,045	
Lahontan Basin Project Office	54	8,208	17,888						0.0	0.0		0	0	
Totals & Averages	1,755	268,183	577,528	1	6		2	72	3.7	10.4	10.4	7	125	222
REGION 3														
Boulder Regional Office	180	27,360	57,456						0.0	0.0		0	0	
Boulder Canyon Project	155	25,959	56,487	1	1		9	9	38.5	37.7		347	159	316
Colorado River FW&S Project	69	10,512	22,240	1	1		2	2	92.1	45.0		190	90	234
Parker-Davis Project	263	44,509	94,271						0.0	0.0		0	0	
Yuma Projects Office	138	20,882	41,643						0.0	48.1		0	240	
Totals & Averages	805	129,222	272,097	2	2		11	11	15.5	7.3	20.0	85	40	128
REGION 4														
Salt Lake Regional Office	208	49,686	99,372						0.0	0.0		0	0	
Berry County Project Office	10	1,260	1,967						0.0	0.0		0	0	
Central Utah Projects Office	154	24,266	51,363						0.0	21.5		0	129	
Curcanti Unit CRSP	59	9,440	19,840						0.0	0.0		0	0	
Flaming Gorge Unit CRSP	120	17,717	39,348						0.0	0.0		0	0	
Glen Canyon Unit CRSP	214	50,240	108,200	1	2		7	747	19.9	18.5	0.0	139	6,904	0
Navajo Unit CRSP	62	9,803	20,218						0.0	0.0		0	0	
Transmission System Office CRSP	95	15,200	32,800						0.0	0.0		0	0	
Durango Projects Office	89	14,411	30,322		1			8	32.9	0.0		263	0	
Grand Junction Office	124	21,240	48,664		1			34	20.5	0.0		699	0	
Logan Development Office	13	2,042	4,526						0.0	0.0		0	0	
Sedakades Project	68	10,719	21,199						0.0	0.0		0	0	
Upper Green River Office	26	4,000	10,380						0.0	0.0		0	0	
Weber Basin Projects	158	25,280	50,990						0.0	0.0		0	0	
Totals & Averages	1,610	255,404	539,440	1	4		7	789	3.9	7.4	2.2	27	1,463	13
REGION 5														
Amarillo Regional Office	104	16,640	32,972						0.0	0.0		0	0	
Albuquerque Project Office	302	46,887	93,133						0.0	37.9		0	364	
Austin Development Office	79	11,622	23,920						0.0	0.0		0	0	
Canadian River Project	93	14,224	27,341						0.0	0.0		0	0	
Lower Rio Grande Rehab. Project	64	10,256	22,216						0.0	45.8		0	183	
Norman Project Office	30	4,376	7,568						0.0	0.0		0	0	
Oklahoma City Development Office	36	4,863	10,474						0.0	0.0		0	0	
Rio Grande Project	279	42,192	90,504	1	3		2	12	23.2	23.7		46	137	202
San Angelo Project	84	15,880	32,476	2	2		99	99	125.9	61.6	29.1	6,234	3,048	87
Washita Basin Project	48	7,407	15,515						0.0	0.0		0	0	
Wichita Project	37	5,547	10,402						0.0	0.0		0	0	
Totals & Averages	1,156	180,894	366,521	3	5		101	111	16.6	13.6	28.6	558	203	209
REGION 6														
Billings Regional Office	221	34,880	69,192						0.0	0.0		0	0	
Canyon Ferry Project	19	2,806	6,377						0.0	0.0		0	0	
East Bench Project Office	64	11,000	22,937						0.0	0.0		0	0	
Fort Peck Project	35	5,042	11,278						0.0	0.0		0	0	
Missouri-Oahe Projects Office	246	39,995	81,593						0.0	0.0		0	0	
Missouri-Souris Projects Office	132	28,604	45,851		1			6	21.8	25.6		131	154	
Power System Operations Office	37	5,920	11,840						0.0	0.0		0	0	
Riverton Project	29	4,294	8,871						0.0	0.0		0	0	
Upper Missouri Projects Office	95	13,610	28,915	1	1		3	3	73.5	34.6	39.1	220	104	508
Yellowtail Project Office	97	14,868	27,850						0.0	0.0		0	0	
Totals & Averages	975	161,019	314,704	1	2		3	9	6.2	6.4	7.7	19	29	73
REGION 7														
Denver Regional Office	157	23,864	52,752						0.0	0.0		0	0	
Denver Development Office	25	4,400	8,688						0.0	0.0		0	0	
Kansas River Projects	322	49,544	106,468		1			8	9.4	9.4		75	189	
Wichita-Lower Platte Projects	330	52,800	106,240						0.0	0.0		0	0	
North Platte River Projects	287	45,920	92,080						0.0	10.7		0	11	
South Platte River Projects	167	26,720	57,448					14	17.4	18.2		244	36	
Totals & Averages	1,288	203,248	423,676		2			22	4.7	7.8		52	60	
CONSOLIDATED TOTALS	10,775	1,684,390	3,526,561	11	25	0	159	1,050	6.5	7.1	10.7	94	298	95
TOTALS LAST YEAR (1961)	10,472		21,258,640		162	1		9,076		7.6			427	

*FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH FEBRUARY 28, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	46	10,322	17,390						0.0	0.0		0	0	0
Columbia Basin Project	161	25,550	41,925	1	1		3	3	39.1	23.9	0.0	117	72	0
Crooked River Project	0	0	240						0.0	0.0		0	0	0
Hungry Horse Project	1	16	16						0.0	0.0		0	0	0
Minidoka Project	0	0	1,502						0.0	0.0		0	0	0
Rogue Project	41	6,669	14,246						0.0	27.3		0	136	0
Yakima Project	17	1,493	2,491						0.0	0.0		0	0	0
Totals & Averages	266	44,050	77,810	1	1		3	3	22.7	12.9	9.7	68	39	49
REGION 2														
Sacramento Regional Office	0	0	1,031						0.0	--		0	--	0
Distribution System Projects Office	118	10,457	35,438		2			57	56.4	0.0		1,608	0	0
El Dorado Project Office CVP	81	8,599	19,279	1	1		44	44	116.3	51.9	223.6	5,117	2,282	2,348
Red Bluff Office CVP	16	982	982						0.0	--		0	--	0
San Luis Unit CVP	4	778	778						0.0	--		0	--	0
Trinity River Division CVP	819	121,613	274,899	10	13		141	283	82.2	47.3	53.1	1,159	1,029	664
Klamath Project	31	3,608	7,500						0.0	0.0		0	0	0
Totals & Averages	1,069	146,109	339,911	11	16		185	384	75.3	47.1	56.8	1,266	1,130	696
REGION 3														
Boulder Canyon Project	4	152	1,626						0.0	0.0		0	0	0
Tuma Projects Office	41	6,410	12,232						0.0	28.8		0	877	0
Totals & Averages	45	6,562	13,858						0.0	27.9		0	879	0
REGION 4														
Central Utah Projects Office	29	3,392	7,819						0.0	141.1		0	988	0
Caracani Unit CRSP	46	5,731	10,314						0.0	--		0	--	0
Flaming Gorge Unit CRSP	391	73,092	123,591	1	1		50	50	13.7	8.0	17.3	684	398	1,731
Glen Canyon Unit CRSP	1,432	223,443	443,662	2	10		44	384	8.9	22.5	13.4	197	866	362
Navajo Unit CRSP	241	27,946	54,852						0.0	0.0		0	0	0
Florida Project	112	19,626	39,921	2	4		70	116	101.9	100.0	--	3,567	2,901	--
Grand Junction Office	165	23,344	50,921		1			10	19.6	23.0		196	92	0
Seedskadee Project Office	48	9,899	17,817						0.0	--		0	--	0
Reber Basin Projects	78	7,752	20,986	1	1		1	1	129.0	47.6	0.0	129	48	0
Totals & Averages	2,562	394,225	771,953	6	17		165	561	15.2	22.0	14.5	419	727	404
REGION 5														
Albuquerque Project Office	4	368	1,942						0.0	0.0		0	0	0
Lower Rio Grande Rehab. Project	220	23,049	34,984						0.0	0.0		0	0	0
San Angelo Project	517	105,939	208,643	2	7		11	63	18.9	33.6	63.5	104	302	945
Sanabla Basin Project	128	21,443	38,026						0.0	12.2		0	85	0
Canadian River Project	14	528	528						0.0	--		0	--	0
Totals & Averages	883	151,333	284,123	2	7		11	63	13.2	24.6	31.9	73	222	446
REGION 6														
East Bench Project Office	106	14,921	25,206						0.0	0.0		0	0	0
Missouri-Ozba Projects Office	167	17,635	38,264						0.0	334.7		0	2,677	0
Missouri-Souris Projects Office	50	5,364	9,910		1			90	100.9	0.0		9,082	0	0
Riverton Project	8	396	1,247						0.0	0.0		0	0	0
Yellowtail Project	313	53,624	104,132	1	1		24	24	18.6	9.6	0.0	448	230	0
Totals & Averages	644	91,940	179,154	1	2		24	114	10.9	11.2	24.4	261	636	195
REGION 7														
Kansas River Projects	179	25,437	47,003						0.0	0.0		0	0	0
Niobrara-Lower Platte Projects	209	31,394	56,550						0.0	26.3		0	1,290	0
North Platte River Projects	22	1,952	4,507						0.0	0.0		0	0	0
South Platte River Projects	6	724	1,908						0.0	0.0		0	0	0
Totals & Averages	416	59,507	109,968						0.0	8.7		0	429	0
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	7,438	893,726	1,776,777	21	43	0	388	1,125	23.5	24.2	24.5	434	637	455

* FATALITIES INCLUDED IN TOTAL DISABLING



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SAFETY RECORD



SAFETY SUPERVISOR OF THE MONTH
ALLEN MATTISON



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

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Front Cover Photo: Allen Mattison, Construction Engineer--
Central North Dakota Transmission System--
Bureau of Reclamation.

SAFETY RECORD is published monthly by the Office of Assistant
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Reclamation, Denver, Colorado, in the inter-
est of accident prevention.

SAFETY AWARD TO ALLEN MATTISON

Allen Mattison, former Construction Engineer of the Bureau of Reclamation's Central North Dakota Transmission System, has been awarded the Department of the Interior Safety Council Award of Merit in recognition of his outstanding safety efforts. Mr. Mattison retired in December 1961, after completing more than 25 years of service with the Bureau of Reclamation. He served as Construction Engineer of the Central North Dakota Transmission System (power transmission lines, substations, and related facilities) from January 1950 to his retirement.

Government employees under Mr. Mattison's supervision in North Dakota earned two Department of the Interior Certificate of Safety Achievement Awards. The first award was conferred in 1957 for 7-1/2 years of operation without a lost-time injury. The second award was given in 1960 in recognition of 10 years and 3 months of operation without a disabling injury--a total of 508,081 man-hours. There were no lost-time accidents during the period from January 1, 1960 to December 31, 1961, thereby making possible an additional total of 141,722 accident-free man-hours to the exemplary safety record achieved under Mr. Mattison's supervision. Operations on the Central North Dakota Transmission System are diversified and geographically widespread. The high-voltage wood-pole and steel-tower lines which make up the system total approximately 2,200 miles in length. In addition to climbing assignments and other hazardous duties, employees under Mr. Mattison's supervision drove thousands of miles in the course of their work. The record achieved reflects Mr. Mattison's active interest in on-the-job safety and his concern for the welfare of the employees under his supervision.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - March 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Alaska District	0.0	0	0.0	150.3
Region 7	3.1	34	1.1	5.4
Region 3	4.8	26	1.2	8.9
Region 2	6.7	81	5.4	3.0
Region 4	7.3	1,086	79.3	7.0
Region 6	8.3	523	43.4	5.4
Region 1	11.9	44	5.2	1.0
Region 5	14.0	204	28.5	3.1
Totals to Date 1962	7.0	262	18.3	4.7
Totals Last Year	7.6	427	32.5	4.6

*Injury index is equal to the frequency rate times the severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - March 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 3	0.0	0	0
Region 1	7.8	23	0
Region 7	13.0	124	0
Region 6	18.3	760	0
Region 4	21.3	657	0
Region 5	29.6	350	0
Region 2	43.0	845	0
Totals to Date 1962	25.3	575	0
Totals Last Year	24.1	5,926	12

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
March 31, 1962

A. ACCIDENT CLASSIFICATION

<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>	<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>
5	Vehicles	2	3	16	Striking Against	1	10
10	Flash Burns	1	4	17	Flying Particles	1	2
12	Handling Material	10	145	18	Hand Tools	3	6
13	Falling Objects	4	90	20	Not otherwise		
14	Falls of Persons	9	1,073		classified	7	88
					Totals	38	1,421

B. OPERATIONAL SUMMARY

<u>Operation</u>	<u>Man-Hours</u>	<u>No. of accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	1,288,002	3	745	2.3	578
Construction	1,250,542	10	389	8.0	311
Design	590,268	1	28	1.7	47
Investigation	722,448	3	55	4.2	76
O&M-Irrigation	689,496	14	106	20.3	154
O&M-Power	879,035	7	98	8.0	111
Totals	5,419,791	38	1,421	7.0	262

C. SERIOUS ACCIDENTS (Personal Injury)

<u>Date</u>	<u>Occupation</u>	<u>Description of accident</u>	<u>Days lost</u>
1-22-62	Gardener	Fell while carrying unsheathed axe	*740
3- 3-62	Construction Inspector	Fell from pole while raising safety strap	180

*Standard Time Charge - Loss of member

ACCIDENT REVIEW

EQUIPMENT

Employer: Subcontractor

Activity: Starting truck motor in shop.

Accident Situation and Occurrence: A mechanic was attempting to start a truck motor. He was putting starting fluid in the air cleaner when the truck started with a jerk, causing him to fall to the floor. The employee fractured his heel and the estimated lost time was 47 days.

Cause Determination: This accident was caused by the employee neglecting to disengage clutch before starting the motor. Basic safety regulations must be followed at all times.

JACKHAMMER

Employer: Contractor

Activity: Operating a jackhammer.

Accident Situation and Occurrence: Employee was operating a jackhammer to remove rock from a pier excavation. The bit of the hammer was positioned on a rock ledge about 4 inches above the operator's feet. The hammer bounced from the rock surface landing on the operator's toes. The employee lost 10 days from work as the result of the puncture wound.

Cause Determination: This accident might have been prevented by the operator keeping his feet farther away from the bit. Use of safety-toed shoes in this case would have prevented the injury.

BACKFILL OPERATIONS

Employer: Contractor

Activity: Backfilling trench.

Accident Situation and Occurrence: While backfilling, a loader operator dumped some dirt on top of an employee who was in the trench. The laborer received back and shoulder contusions resulting in 7 days' lost time.

Cause Determination: A signalman should always be used to give directions to equipment operators when placing material in trenches where other employees may be working. Workmen in trenches should not be located too close to backfilling operations.

FLYING PARTICLES

Employer: Government

Activity: Maintenance work on irrigation ditch.

Accident Situation and Occurrence: A laborer was pulling weeds and debris from an irrigation ditch. A foreign object got into his left eye and the employee lost 2 days from work.

Cause Determination: Employee did not use goggles to protect his eyes. Foremen should check to see that their workmen are using proper protective equipment.

HANDLING EQUIPMENT

Employer: Government

Activity: Moving equipment by hand.

Accident Situation and Occurrence: Employee was pulling a suspended 180-pound hammer horizontally to position for lowering. The suspending rope released allowing the hammer to drop unexpectedly, jerking the employee to his knees. He received a back injury and the estimated lost time was 48 days.

Cause Determination: The employee should have secured additional help to position the hammer. Where possible, mechanical means should always be used to move heavy equipment.

SCAFFOLD REMOVAL

Employer: Contractor

Activity: Removing wood scaffold.

Accident Situation and Occurrence: Employee was removing a wood scaffold from a completed wing-wall structure. A plank fell off from the scaffold bracket, striking him on the right foot. This resulted in a fracture of the foot and an estimated 33 days of lost time.

Cause Determination: Both planning and carrying out an orderly removal of the scaffolding were lacking in this case. Only experienced workmen should be used for this type of work.

FALLS

Employer: Contractor

Activity: Climbing down power pole.

Accident Situation and Occurrence: A lineman was climbing down a wood power pole when he slipped and fell to the ground. He fractured a heel bone and the lost time was estimated at 60 days.

Cause Determination: The employee fell because one of the gaffs on his climbers had cut out from the wood pole. Linemen must make sure that their gaffs are securely embedded into the pole at each step. Always maintain sharp gaffs on linemen climbers.

FALLING OBJECT

Employer: Contractor

Activity: Crane operation.

Accident Situation and Occurrence: Operator "two-blocked" spreader bar on crane. Load line broke, allowing spreader bar to fall on a carpenter standing under crane load. Employee received multiple injuries and the estimated lost time was 126 days.

Cause Determination: Operator was new to the equipment which contributed to his faulty operation of the crane. Employee should not have been standing under crane load during lifting operation.

HANDLING MATERIAL

Employer: Contractor

Activity: Carrying 30-foot-long rock bolt.

Accident Situation and Occurrence: Two laborers were carrying a 30-foot-long rock bolt when a batch train struck the end of bolt knocking one employee to the ground. Employee received contusion injury to his ankle and the lost time was estimated at 20 days.

Cause Determination: Materials (rock bolts) should not be stored on trestle. The rock bolts should have been placed closer to the operation and out of the way of moving trains.

FROM THE FIELD

Boulder Canyon Project: A 30-hour Supervisors' Safety Training Course was held on the project the week of March 12, with Mr. Grady Reid, U.S. Department of Labor, Bureau of Labor Standards, as instructor. Twenty-four supervisors attended and received certificates upon completion of the course.

Tracy Field Division: Project plans are being made to conduct a defensive driving course for drivers of dump trucks, mobile cranes, and lowboy trucks at Tracy.

Yellowtail Project: The diversion tunnel was holed through on March 6 without a lost-time injury on the contractor's tunnel operations. Air volume and Monoxer CO tests have been made regularly and safe working conditions maintained in the tunnels. Silver, wide-angle, Scotchlite reflective tape has been put on all Bureau field personnel hard hats to make them more visible in tunnels and at night.

Fort Peck Project: A safety discussion was held on certain aspects of the operation on the Truco derricks. Installation of rear jacks for stabilizing purposes has been an added safety factor and has benefited the operation of the derrick and digger. The operator's seat on the large Truco has been modified by removing the swivel seat and installing an operating platform which permits the operator to face the boom and keep out of the way of the outriggers. The outrigger controls have been provided with a lock so they can only be operated by first removing the lock. A policy has been devised whereby the operator at the main control may place the control in position so that operation of the boom may be controlled by the man in the basket. However, in the event of an emergency, the regular operator may take over control of the boom at any time after a determination has been made that no harm to personnel will occur because of this action.

Flaming Gorge Unit: Arch Dam Constructors have made up a film strip on various phases of the project with an explanation of the hazards concerned. This film is being shown to all employees as an indoctrination to the work and then discussed with the men after the showing.

San Angelo Project - Contractor's Safety Report: Things learned the hard way. 1. Even a big old tough foreman needs proper eye protection when using a cutting torch. 2. "Rod Busters" are a mighty tough lot, but they also need eye protection, and if they point the flame at their arms, it will burn. 3. Starting fluid, ether, is potent. We need to stop carrying it in our tool boxes, under our seats, or in the cab. We had an explosion in a tool box when the lid came loose on an ether can, and the driver closed the key on his radio. Also, a fire in a front-end loader brought the starting

fluid under suspicion again, as there was part of a can under the operator's seat. 4. Even a job vehicle needs a clean, clear windshield when driving against the sun (or any other time for that matter). One of our vehicles had the front end cleaned out from under it when the driver failed to see a rock in the road because of the sun on his windshield.

Niobrara-Lower Platte Projects: Cloth-backed, plastic-coated packets containing two high-visibility fluorescent safety vests and flags were purchased and placed in each vehicle assigned to survey crews. These vests and flags will be used by survey personnel when surveys require crossing or working adjacent to State highways and County roads.

Hungry Horse Project: A tool tray and guard has been fabricated and installed on the "Spider Staging," as suggested at a safety meeting. The tool guard will prevent large tools on the floor of the cage from sliding through the opening for the winch and possibly striking someone below. Handrails are being fabricated and will be installed on one side of the bridges of the powerhouse cranes. Handrails are also being made for the bow of the steel work boat as the result of an employee suggestion.

Minidoka Project: Five-minute safety meetings are held on Monday of each week by each Branch. Shop personnel have been attending the meetings conducted by Virgil Temple of the Electrical-Mechanical Branch. This has been beneficial as he has been passing on the safety tips received from the Department of Labor safety training course held recently at Pocatello. Some of the meeting topics discussed were: Use of ladders; use of equipment; artificial respiration; handling materials; clothing and eye protection on the job; and purpose of safety meetings.

Snake River Development Office: Automobile safety belts were brought up at the last safety meeting. Seat belts have been ordered for all Bureau vehicles and will be installed when received.

Klamath Project: Samuel C. Dugan, as an official instructor for the Bureau of Mines, conducted first-aid training for 22 Project and contractor employees. They were examined by R. A. Breckenridge on March 21 and were given certificates of satisfactory completion.

Yuma Projects: Rear wheel failures on vehicles used for survey wagons have been eliminated with the purchase of truck-type wheels for the vehicles. Possible overloading in excess of manufacturer design was taken into consideration after it was determined that the wheels were not defective.

Grand Junction Projects Office: Fifteen persons of this office attended a 14-hour training course in first aid and a review of the safety manual. Ten hours were devoted to first-aid training; 2 hours allotted for examinations; and 2 hours for review of the safety manual.



P-707-729-1485 FARWELL UNIT. View showing group of Bureau and Contractor employees attending first-aid class at Ashton, Nebraska. Training provided by Bureau Safety Inspector A. H. Bachman.

El Dorado Distribution System Project: Our first-aid training has proven itself to be effective. On March 10, Edward J. Bennett, Jr., came across a carload of college students overcome by carbon monoxide gas. Bennett administered artificial respiration and revived the victims. On March 15, on the way to work, Messrs. John Welton, Bill Webb, Tom Morris, and Stan Macy witnessed an auto accident, in which three people were injured. The employees stopped

and rendered first aid to the injured and remained with them until medical aid arrived.

Alaska District: A District Safety Committee was formed during the month and a safety meeting was held on March 30. Arrangements were made for the Safety Engineer and the Project Development Engineer to attend a safety course in Juneau on April 2-5. The Assistant Project Superintendent at Eklutna will attend the course in Anchorage during the week of April 9-13. The course is sponsored jointly by the U.S. Department of Labor and the Alaska State Department of Labor.

ARE YOUR SAFETY MEETINGS GETTING ACROSS?

THE MEETINGS we're going to talk about are sometimes called "5-Minute Safety Talks," "Tailgate Safety Meetings," or "Stand-Up Safety Meetings." Whatever their name, they all have some things in common--they're short, timely, and are usually run or moderated by the supervisor or section foreman.

Now what is the purpose of such a meeting? It's to get the men thinking about safety in their job by short but repeated, talks on the same subject, safety. The gathering together of an informal group of men like this can be a most effective way to get the men to accept a safety idea. Psychologists say that man has become a predominately socially centered being--he's greatly influenced by what the group around him thinks and does. So let the men talk, let them air their views. You be the moderator--introduce the subject (but don't lecture), and keep the discussion on the beam. Here are some pointers which should help to make safety meetings effective:

REGULAR MEETINGS

Hold the meeting at regular intervals--at least once a week. Regularity will provide a feeling that the meetings are part of the job.

ON-THE-JOB

Hold it on-the-job but make the men as comfortable as possible--maybe not chairs but at least benches to sit on and let them smoke, if smoking is permitted in the area.

DON'T LECTURE

Let the men talk. Start the meeting with a brief statement of the problem and throw it open for discussion. Keep it going with leading questions. If the solution or suggestions finally adopted come from the men themselves, they are much more likely to be carried out.

BE PREPARED

During the week keep looking for unsafe conditions or acts which can and should be discussed by the group. Prepare a brief review of the problem and a kick-off question or two to stimulate discussion. Use "how," "why," or "what" questions instead of those that will get just a "yes" or "no." Remember you have a definite objective in bringing up the problem. See that the discussion is aimed at a solution. If it looks like the group is leaning toward a workable solution, summarize the proceedings in this vein and conclude with a definite action statement.

MAKE IT SHORT

Keep the time down to 5 or 10 minutes. Restrict each session to one topic or idea, and do not make it too broad or involved. "Electrical safety," for instance, covers too much ground, but some aspect of the subject such as "electric drills" or "grounded tools" might fit into the allotted time. If it gets too hot, continue the discussion at the next meeting.

FACT FINDING, NOT FAULT FINDING

Take the positive attitude! Don't be negatively critical. Such accusations as--"We're having too many eye injuries. You fellows are not wearing your goggles"--are likely to create resentment and defiance. Whereas--"Compared to some other shops our eye injuries are pretty high. What can we do to bring them down?"--presents a problem, introduces a spirit of competition, and asks the men for help and cooperation. Placing blame or name-calling has no place in a group meeting. It will surely stifle open discussion and the cooperative spirit.

ENTHUSIASM

Above all, be enthusiastic. The effectiveness of the safety program in any organization, large or small, is directly related to the interest and concern expressed by its leadership. However small your shop may be, you are the king-pin of its safety program. The attitude of the men will be influenced by your attitude and the way your convictions are expressed at these safety meetings.

--Safety Review - Navy Department

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VEHICLE SEAT BELTS
(Cornell University Research)

During the period 1955-1961, over 45,000 vehicle accident case data, reported by 19 states and 5 cities co-operating in the Automobile Crash Injury Research project, were analyzed by Cornell University. The Cornell studies developed the following facts relative to the value of seat belts:

1. You are 60 percent less likely to suffer an injury of any sort if you are wearing a seat belt.
2. You are 50 percent less likely to be killed if you are wearing a seat belt.
3. Two-thirds of the drivers involved in fatal accidents had their accidents less than 25 miles from home.
4. One-half of the injury-producing accidents in cities occur at impact speed of less than 27 mph.
5. Sixty-six percent of all vehicle accidents occurred at impact speed of less than 42 mph.

* * * * *

SUMMARY OF PUBLIC DROWNINGS
First Quarter - 1962

1. Bureau of Reclamation Facilities (Controlled and Operated by the Bureau):

Canals	- 3
Reservoirs	- 1
Dams	- 0
Total	- 4

2. Facilities Constructed by the Bureau but Operated by Other Agencies:

Public Drownings - 0

3. Nature of Drownings:

Boating Accident (No life preserver)	- 1
*Fell into irrigation canal	- 3

*Note: All three were children under 4 years of age who were playing along the edge of the canal.

4. Summary:

First Quarter 1962 - Total Drownings - 4

First Quarter 1961 - Total Drownings - 7

* * * * *

RECLAMATION'S 1962 WATER SAFETY PROGRAM

Statement by Commissioner Floyd E. Dominy

"The problem of public drownings on Reclamation facilities is becoming a matter of increasing concern, demanding positive and concerted preventive measures. As the President's program providing for increased use of lakes and reservoirs for public recreation is expanded, provision for public safety will assume even greater importance. We must prepare ourselves to meet the challenge at the level at which it occurs, through a well-organized water safety program thoroughly coordinated from the Regional level, and energetically implemented on every Bureau facility."

Talk Before Northern California
Labor-Management Safety Committee
Redding, California - April 7, 1962

Subject: "Construction Safety," by Howard S. Latham, Chief Safety
Engineer, U.S. Bureau of Reclamation

I. Introduction

It is indeed a pleasure to have the opportunity to participate in this, the first meeting of the Northern California Labor-Management Safety Committee, and to speak to you on the subject of safety. It is seldom that representatives of labor, management, and Government can participate in a discussion with complete harmony and objectivity. While all of us may not take the same approach to safety, nor agree on all the varied loss-prevention measures, I believe that our objective is basically the same - the reduction of occupational injuries in construction work.

Surprisingly enough, it may correctly be stated that we are congenial bedfellows in the pursuit of this humane objective. Fortunately, none of the interests represented here this evening are alone in their efforts to improve the safety record in construction. While our responsibilities may vary, each of us have a sizeable stake in the achievement of this single objective. Reclamation, representing the Federal Government, is desirous of completing the vital Central Valley Project with a minimum loss of life and limb. The State of California is concerned with the protection of the health and welfare of its citizens. Organized Labor is vitally interested in the physical and economical well being of its members. Contractors, in addition to the humanitarian concern, are desirous of eliminating accident costs and increasing production and efficiency. Since most of the construction workers make their homes in the area, their safety and well being is also of concern to the Community. In fact, the most valuable asset that the Government, the Contractor, Organized Labor, and the Community share in common is the men and women who represent them, do their work, belong to their organizations, and live in their communities.

II. Safety Record

While I don't propose to bore you with statistics, I believe you should have some idea of the magnitude of the safety problem which faces the nation and industry. During 1961, work accidents resulted in approximately 13,500 deaths and 2 million disabling injuries. According to the Department of Labor, these occupational injuries and deaths contributed to an estimated 160 million man-days of disability during 1961. This is equivalent to a year's full-time

employment of about a half a million workers. To make a further comparison - this annual loss to the Nation would finance over a dozen multi-purpose Reclamation projects, comparable to the Trinity River Project. The Nation can ill afford this tragic and economic waste, interfering with our potential growth and ability to defend ourselves. Construction activities contributed to this appalling loss in accounting for 2300 deaths and over 200 thousand disabling injuries.

More important, it is readily recognized that an accident means much more than individual injury or economic cost. Accidents cannot truly be measured in simple statistical terms of money, property, or even life and limb. Safety and the prevention of accidents has a much larger and significant meaning. Safety assumes a moral, cultural, and political challenge, and inevitably becomes a matter of "safeguarding human worth," which was the theme of the 1962 President's Conference on Occupational Safety.

III. Objective

I believe that the reason for this amalgamation or joining of labor and management, and to some extent Government, is to determine how each can proceed in comparative harmony and agreement toward achievement of a common objective. Therefore, I will address my remaining remarks to this problem.

IV. Reclamation

Reclamation's aim, with respect to construction, is to complete the building of irrigation and hydroelectric projects expeditiously and economically. As a Government agency representing the people, we have an obligation to provide for the safety of the men and women who work on these vital conservation projects. Further, as expressed by Mr. Bloodgood, Assistant Commissioner and Chief Engineer, it is our desire to treat all contractors equitably and uniformly. In incorporating practical provisions for the health and safety of construction employees in all Reclamation construction contracts, we have endeavored to meet this obligation. We believe that a concerted contractor safety effort, following the provisions set forth in the contract specifications, is compatible with these aims. Certainly it is in the public interest.

Ours is principally a contractual relationship - placing equal emphasis upon the quality of the product, its timely completion, and the fact that the work is carried out in a safe manner. While the contract specifications give the contractor considerable initiative and leeway in carrying out a safety program, there are certain

requirements which we consider essential to an effective safety effort. Among them are: (1) Provision for competent safety supervision; (2) Submission of a safety program for our review prior to start of construction; (3) Provision for adequate facilities and trained personnel to provide prompt and efficient first aid and medical attention for injured employees; and (4) Compliance with the safety provisions of the Reclamation publication, Safety Requirements for Construction by Contract. We also require the contractor to conduct a safety educational program through the media of regular weekly tool-box safety meetings conducted by his foremen.

Further, each contractor is required to arrange for first-aid training for the foremen, in order to insure that every supervisor of workmen shall hold a current Bureau of Mines or American Red Cross first-aid certificate. Obviously, this provision is not solely for the purpose of training foremen to administer first aid or, so to speak, "locking the barn door after the horse has been stolen." Rather, it has been found to be one of the best known means of installing safety consciousness in foremen. A good first-aid man is a safer individual. He knows the pitfalls of getting injured and recognizes the suffering that goes with it. Consequently, a foreman trained in first aid is likely to avoid injury to himself and his men.

Experience has proven that these safety measures are practical as well as essential to an effective safety program. Further, these safety provisions are endorsed and recommended by the Associated General Contractors in their Manual of Accident Prevention in Construction.

V. State Industrial Accident Commissions

Every State has an obligation to its citizens to insure them a safe and healthful environment in which to live and earn a livelihood. Most States, including California, provide for the health and safety of employees by safety codes and regulations enforced by Industrial Accident Commissions. The State also provides for the treatment and care of injured employees, and for payment of workmen's compensation during periods of disability.

These essential services are not in conflict with those of Reclamation. In fact, provision for contractor compliance with State safety codes is included in our contract specifications. Further, Reclamation cooperates in insuring compliance with these safety codes and regulations. However, this phase of safety enforcement is a legal obligation of the contractor to the State.

VI. Contractor

The contractor has the immediate and continuing responsibility for the safety of his employees. He is legally, contractually, and morally obligated to provide for their protection while in his employment. His is probably the most difficult and in some instances the least rewarding safety task. He is expected to make expenditures in money, time, and effort to properly guard his machinery and equipment; design and construct safe scaffolding, walkways, and plant facilities; furnish protective clothing and equipment; provide medical and first-aid facilities; purchase compensation insurance; and to a large extent educate his employees to work safely. In spite of his efforts, employees are injured, and often he is unjustly criticized by those who are either unaware of the true circumstances or unqualified to pass judgment.

A contractor who readily assumes the responsibility for the safety of his men and actively expends both time and effort toward carrying out an effective safety program is deserving of the highest regard.

Further, he is entitled to respect and consideration from both labor and Government representatives. This is one area where labor-management cooperation and understanding is absolutely essential in order to promote "fact finding not fault finding." In serving on labor-management safety committees, I have found that where this attitude prevailed there was mutual respect and cooperation - to the benefit of the safety effort.

VII. Labor

Unfortunately, the majority of construction accidents occur as a result of personal causes such as: unsafe acts; lack of skill or training; and carelessness or inattentiveness. While this was not always the case, it is true today; and is further reflected in the slaughter on our highways. Elimination of this accident cause is no doubt our greatest challenge; and in my experience it has been the one cause receiving the least constructive attention.

Safety education and training is obviously the most logical way to successfully eliminate or reduce this principal cause of construction accidents. Contractors, through workmen and foremen safety meetings and first-aid training, can only partially meet this need. I personally believe that this is one area that Organized Labor and the Building Trades can render valuable assistance and perform an essential service to safeguarding human worth. While some building crafts, notably the Operating Engineers through the efforts of Hunter Warton and others, are making strides in this direction, there is much to be accomplished.

The Building Trades Crafts are revitalizing their apprenticeship-training programs throughout the nation, to the benefit of both the industry and the members; and to the credit of Organized Labor. I suggest that they employ qualified safety personnel and implement apprenticeship training with safety training, for both the new apprentice and the journeyman.

Beside making an immeasurable contribution to the safety effort, Labor will derive other equally important benefits. For example: you all remember about 25 years ago the public considered the truck driver a bad actor, to be avoided. He drank, he fell asleep, he tore up the roads, he was discourteous, etc., etc., etc. All of a sudden, he became the gentleman of the highway. He, now, dims his lights, waves you ahead on a hill, helps your wife change a tire, administers first aid to the injured, etc.

This didn't happen by accident but by design. Driver education, training, and advertising did this. Drivers were trained and told that they were good for so long that they believed it, and became good. Today a truck driver is the best driver on the road; he knows it and so does the public: all to the benefit of the drivers, the industry, and highway safety.

Likewise, through a concerted safety education program, Organized Labor will benefit and gain public esteem. Instead of the accusation of continually being concerned solely with wage increases and fringe benefits, they will be associated with dedication to safety and the reduction of accidents. Such devotion to a cause devoid of self interest and personal gain will most certainly enhance the stature of labor in the public image.

VIII. Conclusion

As pointed out, each of us represented here this evening have definite and distinct responsibilities and obligations to perform to insure the safety of employees engaged in construction:

(1) Reclamation and the State have the obligation to assure a safe work environment; (2) The Contractor has an obligation to provide safe working conditions for his employees and to care for them when they are injured; and (3) Organized Labor can best serve the cause of safety through providing safety training and education for its members. Further, labor and management, through joint committees such as this, can further the cause of safety immeasurably.

I can only say that a good safety record doesn't just happen - it has to be made to happen. I hope that labor and management, individually and jointly, will resolve to make it happen. You will find that the

benefits and personal satisfaction gained far outweigh the effort expended. The well being of countless construction employees and their families, together with the continued growth and security of our Nation, will improve through your dedication and effort to the cause of safety.

* * * * *

SLIDE RULE STATISTICS SHOW IMPACT HAZARDS

Safety officials at Wisconsin Public Service Corporation are using mathematics to dramatize the need for head protection on the job.

Using typical linemen tools as examples, the electric utility's safety advisors have shown mathematically that it is just about impossible to duck objects falling from heights at which linemen usually work.

To prove their point, a hypothetical incident in which a lineman drops a 12-ounce crescent wrench from a 65-foot pole is cited. If a lineman drops a wrench, it would take him 1/2 second to realize he had dropped it and to yell "Headache." It would take a man on the ground another 3/4 second to hear the warning and react to it. Even then he would not know which way to dodge until he had looked up. This might take another 1/2 second. By the time he looked up the wrench would be 4 feet from the groundman's head and would be travelling at the rate of about 40 mph.,

The safety mathematician's case becomes even more convincing when they turn to computing the striking force of various tools and parts dropped from heights at which linemen normally work. Here are a few examples:

<u>ITEM</u>	<u>WEIGHT</u>	<u>STRIKING FORCE WHEN DROPPED FROM</u>	
		<u>32 FT.</u>	<u>48 FT.</u>
Square washer	3½ oz.	7 ft. lbs.	11.7 ft. lbs.
13.5-kv. insulator	2 lbs. 9 oz.	88 ft. lbs.	132 ft. lbs.
Lag screw	3½ oz.	7 ft. lbs.	11.7 ft. lbs.
5/8 x 16 thru bolt	1 lb. 10 oz.	52 ft. lbs.	78 ft. lbs.
5/8 x 18 thru bolt	1 lb. 14 oz.	56 ft. lbs.	84 ft. lbs.
10-in. crescent wrench	12 oz.	24 ft. lbs.	36 ft. lbs.
12-in. crescent wrench	1½ lbs.	48 ft. lbs.	72 ft. lbs.
9-in. pliers	15 oz.	30 ft. lbs.	45 ft. lbs.

From National Safety News, April 1962

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH... March 31... 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	237	41,712	119,448								0.0			0
Denver Office and Laboratories	1,415	249,040	709,888	1	1			28		1.4	0.0		39	0
Alaska District	32	5,364	14,595								0.0			0
REGION 1														
Boise Regional Office	276	44,543	127,787								16.2		0	24
Central Snake Projects	43	7,385	20,104	1	1		1	1	135.4	49.7	46.1	135	50	92
Chief Joseph Dam Project	26	4,381	13,093							0.0	0.0		0	0
Columbia Basin Project	858	151,008	436,040	4	5		21	22	26.5	11.5	22.7	139	50	157
Crooked River Project	0	0	3,150							0.0	0.0		0	0
Hungry Horse Project	51	8,839	26,861							0.0	0.0		0	0
Minidoka Project	167	24,241	71,061		2			7		27.4	12.3		96	25
Reque Project	30	5,824	18,924							0.0	0.0		0	0
The Dallas Project Office	31	5,712	15,446							0.0	0.0		0	0
Vale Project	16	2,336	6,340							0.0	0.0		0	0
Yakima Project	29	4,584	13,115	1	1		3	3	218.2	76.2	0.0	654	229	0
Totals and Averages	1,537	269,153	753,933	6	9		25	33	22.3	11.9	17.8	93	44	96
REGION 2														
Sacramento Regional Office	588	103,488	292,892		3			9		10.2	4.1		31	8
Folsom Field Division	68	12,032	35,335							0.0	0.0		0	0
Fresno Field Division	150	26,400	76,352		1			27		13.1	13.1		354	775
Shasta Field Division	115	20,240	58,048							0.0	0.0		0	0
Tracy Field Division	180	32,424	93,444		2			36		21.4	0.0		185	0
Distribution System Projects CVP	36	6,913	20,703							0.0	0.0		0	0
El Dorado Projects Office CVP	44	7,744	22,328							0.0	27.4		0	112
Red Bluff Office CVP	62	9,206	23,418							0.0	0.0		0	0
San Luis Unit CVP	171	30,053	80,071							0.0	0.0		0	0
Trinity River Division CVP	279	51,038	142,274							0.0	6.9		0	173
Klamath Project	40	7,254	21,887							0.0	39.4		0	670
Lahontan Basin Project Office	52	9,152	27,040							0.0	0.0		0	0
Totals and Averages	1,785	316,244	893,772		6			72		6.7	6.6		81	140
REGION 3														
Boulder Regional Office	125	22,000	62,120							0.0	0.0		0	0
Boulder Canyon Project	152	24,320	80,807		1			9		12.4	75.3		111	1,532
Colorado River P&LS Project	69	11,728	33,968		1			2		29.4	26.2		59	1,022
Parker-Davis Project	266	46,763	141,014							0.0	15.0		0	383
Yuma Projects Office	140	31,306	72,349							0.0	54.2		0	366
Phoenix Development Office	54	9,504	26,840							0.0	0.0		0	0
Totals and Averages	806	145,601	417,698		2			11		4.8	32.8		26	604
REGION 4														
Salt Lake Regional Office	309	50,033	149,405							0.0	0.0		0	0
Emery County Project Office	10	1,475	3,442							0.0	0.0		0	0
Central Utah Projects Office	149	26,696	78,039	2	2		98	98	74.9	25.6	13.9	3,671	1,256	81
Curecanti Unit CRSP	64	12,528	32,368							0.0	0.0		0	0
Flaming Gorge Unit CRSP	125	22,346	61,894							0.0	0.0		0	0
Glen Canyon Unit CRSP	315	55,440	163,640		2			747		12.2	0.0		4,565	0
Navajo Unit CRSP	58	10,843	31,061							0.0	0.0		0	0
Transmission System Office CRSP	91	16,016	48,816							0.0	0.0		0	0
Durango Projects Office	88	15,698	46,021		1			8		21.7	0.0		172	0
Grand Junction Office	131	20,880	69,344		1			34		14.4	0.0		489	0
Logan Development Office	13	2,272	6,789							0.0	0.0		0	0
Seedakadee Project	69	10,712	31,911							0.0	0.0		0	0
Upper Green River Office	24	3,760	14,140							0.0	0.0		0	0
Weber Basin Projects	163	28,688	79,678							0.0	0.0		0	0
Totals and Averages	1,609	277,347	816,787	2	6		98	887	7.2	7.3	1.4	353	1,086	9
REGION 5														
Amarillo Regional Office	106	24,760	57,732							0.0	15.2		0	61
Albuquerque Development Office	21	3,520	3,520							0.0	0.0		0	0
Albuquerque Project Office	296	45,754	138,887	1	1		2	2	21.9	7.2	28.0	44	14	321
Austin Development Office	79	12,555	36,475							0.0	0.0		0	0
Canadian River Project	96	15,042	42,383							0.0	0.0		0	0
Lower Rio Grande Rehab. Project	64	11,284	33,500							0.0	29.5		0	118
Norman Project Office	37	6,061	13,629							0.0	0.0		0	0
Oklahoma City Development Office	36	5,471	15,945							0.0	0.0		0	0
Rio Grande Project	282	50,952	141,436	1	4		3	15	19.6	28.3	20.9	59	106	139
San Angelo Project	86	17,881	50,357		2			99		39.7	18.3		1,566	55
Washita Basin Project	43	6,845	22,360							0.0	0.0		0	0
Wichita Project	37	6,313	16,715	1	1		1	1	158.4	29.8	0.0	158	60	0
Totals and Averages	1,183	206,438	572,959	3	8		6	117	14.5	14.0	21.6	29	204	180
REGION 6														
Billings Regional Office	223	35,680	104,872							0.0	0.0		0	0
Canyon Ferry Project	18	2,982	9,359							0.0	0.0		0	0
East Bench Project Office	66	12,270	35,207							0.0	0.0		0	0
Fort Peck Project	35	5,268	16,546							0.0	57.9		0	1,622
Missouri-Oahe Projects Office	251	41,285	122,878	2	4		242	242	48.4	16.3	0.0	5,862	1,969	0
Missouri-Souris Projects Office	143	21,258	67,107		1			6		14.9	16.1		89	96
Power System Operations Office	37	8,880	20,720							0.0	0.0		0	0
Riverton Project	29	4,924	13,795							0.0	0.0		0	0
Upper Missouri Projects Office	103	17,132	46,047		1			3		21.7	24.6		65	320
Yellowtail Project Office	97	15,226	43,076							0.0	0.0		0	0
Totals and Averages	1,002	164,905	479,609	2	4		242	251	12.1	8.3	7.3	1,468	523	115
REGION 7														
Denver Regional Office	157	27,984	80,736							0.0	0.0		0	0
Denver Development Office	26	4,480	13,168							0.0	0.0		0	0
Kansas River Projects	323	57,000	163,748		1			8		6.1	6.0		49	305
Nebraska-Lower Platte Projects	330	52,800	159,040							0.0	0.0		0	0
North Platte River Projects	285	45,760	137,840							0.0	7.1		0	7
South Platte River Projects	167	29,122	86,570		1			14		11.6	11.6		162	21
Totals and Averages	1,288	217,146	641,102		2			22		3.3	5.0		34	91
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	10,472	1,892,950	5,419,791	13	38	0	371	1,421	6.9	7.0	10.2	196	262	126
			2,258,640		162	1		9,076		7.6			427	

*FATALITIES INCLUDED IN TOTAL DISABLING

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH March 31, 1962

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	67	4,479	21,869						0.0	0.0		0	0	
Columbia Basin Project	201	29,536	71,461		1			3	14.0	0.0		42	0	
Crooked River Project	0	0	240						0.0	0.0		0	0	
Hungry Horse Project	2	274	290						0.0	0.0		0	0	
Minidoka Project	14	4,054	5,556						0.0	0.0		0	0	
Rogue Project	42	7,110	21,356						0.0	18.3		0	92	
Yakima Project	32	4,525	7,016						0.0	0.0		0	0	
Totals and Averages	358	49,978	127,788		1			3	7.8	6.3		23	31	
REGION 2														
Sacramento Regional Office	0	0	1,035						0.0	0.0		0	0	
Distribution System Projects Office	118	22,261	57,699	1	3		21	78	44.9	52.0	0.0	94.3	1,352	0
El Dorado Project Office CVP	75	10,768	30,047	1	2		1	45	92.9	66.6	165.3	93	1,498	1,736
Red Bluff Office CVP	32	3,417	4,399						0.0	-		0	-	
San Luis Unit CVP	4	332	1,110						0.0	-		0	-	
Trinity River Division CVP	813	153,775	428,674	5	18		46	329	32.5	42.0	69.3	299	767	1,613
Klamath Project	40	4,446	11,946						0.0	0.0		0	0	
Totals and Averages	1,082	194,999	534,910	7	23		68	452	35.9	43.0	68.7	349	845	1,548
REGION 3														
Boulder Canyon Project	0	0	1,626						0.0	0.0		0	0	
Yuma Projects Office	51	9,148	21,380						0.0	19.3		0	71.3	
Totals and Averages	51	9,148	23,006						0.0	25.2		0	706	
REGION 4														
Central Utah Projects Office	34	4,622	12,441						0.0	83.6		0	585	
Curseanti Unit CRSP	81	9,967	20,281						0.0	-		0	-	
Flaming Gorge Unit CRSP	633	96,256	221,847	2	3		15	65	20.8	13.5	8.7	156	293	874
Glen Canyon Unit CRSP	1,526	250,759	694,421	3	13		176	560	12.0	18.7	15.4	702	806	605
Navajo Unit CRSP	241	58,192	113,044	1	1		47	47	17.2	8.8	0.0	808	416	0
Florida Project	114	24,949	64,940	1	5		21	137	40.1	77.0	-	842	2,110	-
Grand Junction Office	141	24,203	75,124	1	2		4	14	41.3	26.6	15.9	165	186	63
Seedskadee Project Office	68	14,038	31,855	1	1		5	5	71.2	31.4	-	156	127	-
Weber Basin Projects	70	10,140	31,126	1	2		2	3	98.6	64.3	0.0	197	96	0
Emery County Projects	2	198	198						0.0	-		0	-	
Totals and Averages	2,910	493,324	1,265,277	10	27		270	831	20.3	21.3	14.2	547	657	530
REGION 5														
Albuquerque Project Office	20	4,690	6,632						0.0	0.0		0	0	
Canadian River Project	61	4,331	4,859						0.0	-		0	-	
Lower Rio Grande Rehab. Project	280	30,920	69,904	1	1		1	1	32.3	15.2	0.0	32	15	0
San Angelo Project	561	116,605	325,248	3	10		35	98	25.7	30.7	59.8	300	301	662
Washita Basin Project	116	31,807	69,833	3	3		27	27	94.3	42.9	9.6	849	187	67
Wichita Project	13	615	615						0.0	-		0	-	
Totals and Averages	1,051	188,968	473,091	7	14		63	126	37.0	29.6	32.4	333	266	350
REGION 6														
East Bench Project Office	118	18,113	43,714	1	1		33	33	55.2	22.9	0.0	1,822	755	0
Missouri-Oahe Projects Office	147	12,636	50,900	1	1		1	1	79.1	19.6	291.3	79	20	1,311
Missouri-Souris Projects Office	56	4,786	14,696	1	2		60	150	208.9	136.1	28.6	12,537	10,207	1,716
Riverton Project	24	1,549	2,796						0.0	0.0		0	0	
Yellowtail Project	329	57,306	161,438		1		24	24	6.2	0.0		149	0	
Totals and Averages	674	94,390	273,544	3	5		94	208	31.8	18.3	38.0	996	760	872
REGION 7														
Kansas River Projects	157	25,908	72,911	1	1		10	10	38.6	13.7	0.0	386	137	0
Niobrara-Lower Platte Projects	138	16,445	72,995		1			9	13.7	13.9		123	1,110	
North Platte River Projects	9	1,083	5,590						0.0	0.0		0	0	
South Platte River Projects	5	344	2,252						0.0	0.0		0	0	
Totals and Averages	309	43,780	153,748	1	2		10	19	22.8	17.0	5.1	228	124	409
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	7,438	2,074,587	2,851,364	28	72	0	505	1,639	26.1	25.3	26.0	470	575	656
			25,215,753		367	12		90,162		24.1			5,926	

* FATALITIES INCLUDED IN TOTAL DISABLING



614,805
SAR



SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

RECEIVED IN THE
OFFICE OF THE
CHIEF ENGINEER
BUREAU OF RECLAMATION
MARCH 1962

April 1962

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Front Cover Photo: A view of Glen Canyon Dam and Powerplant from west rim, approximately one-half mile downstream. Reclamation photo P-557-420-6482 by W. L. Rusho.

SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES

January 1, 1962 - April 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Alaska District	0.0	0	0.0	101.2
Region 7	2.3	26	0.6	5.0
Region 4	5.5	819	45.0	4.7
Region 2	5.8	140	8.1	3.0
Region 6	6.2	389	24.1	3.6
Region 1	9.9	47	4.6	0.7
Region 3	10.8	173	18.7	6.5
Region 5	12.9	180	23.2	2.2

Totals to Date

1962

6.3

227

14.3

3.6

Totals Last Year

7.6

427

32.5

4.6

*Injury index is equal to the frequency rate times the severity rate, divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES

January 1, 1962 - April 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	6.0	18	0
Region 7	7.1	68	0
Region 6	19.6	534	0
Region 4	21.9	852	0
Region 5	27.1	211	0
Region 3	28.7	746	0
Region 2	42.5	806	0

Totals to Date

1962

24.4

625

0

Totals Last Year

24.1

5,926

12

LOST TIME ACCIDENT ANALYSIS

Government Forces--1962

Cumulative to Date:
April 30, 1962

A. ACCIDENT CLASSIFICATION

<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>	<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>
5	Vehicles	2	3	16	Striking Against	1	10
10	Flash Burns	1	4	17	Flying Particles	1	2
12	Handling Material	13	181	18	Hand Tools	5	63
13	Falling Objects	4	104	20	Not otherwise		
14	Falls of Persons	12	1,197		classified	7	88
					Totals	46	1,652

B. OPERATIONAL SUMMARY

<u>Operation</u>	<u>Man-Hours</u>	<u>No. of accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	1,680,323	5	760	3.0	452
Construction	1,741,955	10	403	5.7	231
Design	779,537	1	28	1.3	36
Investigation	973,534	3	55	3.1	56
O&M-Irrigation	934,741	16	128	17.1	137
O&M-Power	1,154,388	11	278	9.5	241
Totals	7,264,478	46	1,652	6.3	227

C. SERIOUS ACCIDENTS (Personal Injury)

<u>Date</u>	<u>Occupation</u>	<u>Description of accident</u>	<u>Days lost</u>
1-22-62	Gardener	Fell while carrying unsheathed axe	*740
3- 3-62	Construction Inspector	Fell from pole while raising safety strap	180
4- 9-62	Electrician	Fell while climbing bushing on oil circuit breaker	96

*Standard Time Charge - Loss of member

ACCIDENT REVIEW

FALLS

Employer: Government

Activity: Testing new oil circuit breakers in switchyard.

Accident Situation and Occurrence: The employee, an electrician, was one of a group engaged in testing of new oil circuit breakers in a switchyard. From the top of the breaker, he had started to climb up the bushing to attach a test lead, when his foot slipped off the skirt of the bushing. He was unable to hold onto the bushing and fell 12 feet landing on the concrete foundation of the breaker. The employee received a fracture of the left pelvis and the lost time was estimated at 96 days.

Cause Determination: Apparently it was standard procedure to ascend bushings without the use of a safety belt. As a result of this accident, it is now required that any employee engaged in climbing porcelain bushing shall be furnished and use a safety belt for that purpose. Erection of a temporary scaffold or work platform should be considered and used where possible in this type of work.

HANDLING MATERIAL

Employer: Government

Activity: Skidding logs.

Accident Situation and Occurrence: A log with a cable fastened near one end was being pulled by a power winch. The front end of log caught on an object, causing other end to swing around and strike an employee who was standing about 20 feet away. He received severe contusions to his left thigh and the time lost was estimated at 14 days.

Cause Determination: The accident resulted because the employee was standing too close to the log being skidded. It is necessary, in operations of this kind, that employees keep in the clear and beyond the reach of the log in any direction.

CHAIN SAW

Employer: Subcontractor

Activity: Clearing operations.

Accident Situation and Occurrence: A power tool operator was running a chain saw on clearing work. He stepped on a loose rock that rolled, causing him to fall and cut his left arm on the saw. Time lost was estimated to be 27 days.

Cause Determination: Employees must be sure of safe footing while operating chain saws.

CONVEYOR SPROCKET

Employer: Contractor

Activity: Removing material from under conveyor.

Accident Situation and Occurrence: A laborer was using a shovel to clean dirt out from under a conveyor belt at a crushing plant. The drive sprocket for the feeder at end of conveyor caught his shovel and pulled the employee into the sprocket. He received a thigh fracture and the lost time was estimated at 90 days.

Cause Determination: Allowing employee to work near an unguarded drive sprocket was the primary cause in this case. It is a fundamental safety requirement that all sprockets, drive chains, pulleys, etc., shall be adequately guarded to prevent accidental contact by workmen.

POWER SHOVEL

Employer: Contractor

Activity: Power shovel operation.

Accident Situation and Occurrence: The shovel operator directed the oiler to release the digging tugs under the shovel carriage. After waiting some time, the operator moved the shovel backwards, although he could not see the oiler because of the position of the shovel carriage. The left track of the shovel ran over the oiler's right foot. He received severe bruises to his foot and the lost time was estimated at 60 days.

Cause Determination: There was a lack of communication between the employees concerned. A visual signal should have been given by the oiler to the operator before the shovel was moved. The operator should never move his equipment until he is sure that the oiler is in the clear.

POWER TOOL

Employer: Government

Activity: Drilling holes with airhammer.

Accident Situation and Occurrence: Machinist was drilling holes in concrete wall for cinch anchors using airhammer. Toward end of shift, he felt pain in groin area. Hernia operation resulted in time loss of 53 days.

Cause Determination: Employee was working in awkward position due to existing equipment. Age and physical condition of employee apparently contributed to this injury.

FROM THE FIELD

Region 1: Six operating offices in Region 1 received the Regional Director's Safety Award by having no disabling injuries during calendar year 1961. They were: Wenatchee Project Office, Upper Columbia Development Office, Crooked River Project, Rogue Project, Hungry Horse Project, and the Regional Office.

Parker-Davis Project: It was noted that the project frequency rate is now at its lowest and this seems to coincide with the increased activity in holding "toolbox" safety meetings.

Upper Green River Project: With the increase of field activities, it was felt that emphasis should be placed on safe driving habits. In the limited activities of this office, the vehicle is still considered the greatest hazard to our employees. Supervisors were requested to caution their vehicle-driving personnel of the increasing summer traffic and the necessity of obeying traffic regulations.

Yuma Projects Office: A meeting was held in Yuma on April 12, 1962, for the purpose of establishing the Water Safety Program for this community and surrounding areas. Representatives from water-user organizations, law enforcement, and civic groups were present. The success of this meeting and the Water Safety Program will again depend upon a sound analysis of the problem and an effective presentation of educative and informative material.

North Platte River Projects: The film "Rescue Breathing" was shown at Glendo Powerplant to 14 Bureau employees in conjunction with their first-aid training. Fourteen Bureau supervisors and employees stationed at the Glendo and Guernsey Dams, who had completed the Bureau of Mines course in first aid under the instruction of M. J. McDowell, were examined by J. E. Larsen for proficiency in first aid. Mr. Art Hay reported that his office had been corresponding with the Colorado Coast Guard Auxiliary and he advised that they would be available to participate in a water safety workshop at the Alcova Reservoir on May 4 and 5. Since this would fall on the same date as the dedication ceremonies of the Casper Boat Club building, it was the feeling that a large crowd would be in attendance. All publicity in connection with this workshop will be handled by the Casper Boat Club.

Yellowtail Unit--MRBP: Minutes of the last meeting were reviewed and it was noted that camp traffic regulation signs have been posted; wheel blocks placed in all trucks and survey vehicles; and steelplates in place of gravel installed in pickups. A schedule of weekly fire drills conducted by M. Rooney was set up. Two fire drills were held during April using the temporary tank truck and auxiliary pump with firehose lines from hydrants.

Rio Grande Project: A general discussion was held on the responsibility for enforcement of the safety program. It was brought out that in certain instances supervisors on construction work were not following suggestions to provide safe working conditions. Steps to be taken to correct this problem were then considered. It was agreed that Branch Heads were responsible for the safety program in their areas and that effective measures must be taken to correct any disregard of safety rules.

Curecanti Unit Office: All employees are to be reminded that the Canyon area has been designated a "hard hat" area and no one, including official visitors, may enter this area without a hard hat. Rocky Mountain spotted fever inoculations have now been given to all Bureau employees of the Curecanti Unit.

Norman Project: The Safety Officer has asked that all new personnel assigned to the Project be processed through his office. He will give the employee an explanation of our safety program, disaster control plan, driver responsibilities, and answer any questions the employee may have on our safety requirements.

Columbia Basin Project: The project participated in a Safety Carnival sponsored by the Knolls Vista PTA, Moses Lake, on April 26 and 27. The project display and "hand-outs" emphasized canal water safety. Approximately 600 elementary school youngsters and some 100 adults attended the Carnival. Mr. Moncrief, Administrative Assistant, was in charge of the project's booth and display. Mr. Robert Hill, Bureau Engineer and Chairman of the Grant County Red Cross Water Safety Committee, has spoken widely throughout Grant County to schools, PTA's and Safety Councils on water and canal safety. Project Safety Engineer E. E. Ennis attended the Western Farm Safety Conference, Tacoma, Washington, on April 26 and 27. Delegates included water and canal safety as one of the main items of concern in farm safety.

Niobrara-Lower Platte Projects: A survey of the Sherman Dam and Reservoir area was made to determine the specific locations of hazardous areas and the safety devices needed to protect the general public and operating personnel. The Project Manager indicated at a safety meeting that we must face up to hazards and safety devices at time of submission of design data, that we should be more aggressive in this area and to be more forceful than we have been in the past.

Boulder Canyon Project: The Supervisory Safety Committee Meeting was held on April 23. The committee reviewed the minutes of safety meetings held by supervisors with their crews and initiated steps to be taken on items requiring action at the management level.

* * * * *

COMMISSIONER'S ANNUAL SAFETY AWARD

Achievement of an outstanding safety record is a notable accomplishment yielding immeasurable benefits, and it is deserving of appropriate recognition. In order to provide such recognition at both the project and regional level, the present Safety Award program has been expanded to include the "Commissioner's Annual Safety Award." This award, consisting of a letter of commendation and a certificate, will be presented each year to the region having obtained the lowest accident experience among Government employees.

To establish an equitable basis of comparison, both the regional frequency rate and the severity rate will be considered, computed for the calendar year period as follows:

$$\text{Injury Index} = \frac{\text{Lost Time Frequency Rate} \times \text{Severity Rate}}{100}$$

The region having the lowest Injury Index, computed and verified by the Office of Assistant Commissioner and Chief Engineer, will receive the annual award.

(Establishment of the above safety award was announced by Commissioner Floyd E. Dominy in his letter to the field on April 26, 1962.)

* * * * *

REGION 4 WINS FIRST COMMISSIONER'S ANNUAL SAFETY AWARD

The following teletype message was read on April 26 at the Tenth Annual Region 4 Safety Conference:

"Safety award program has been expanded to include the Commissioner's Annual Safety Award which will be presented each year to the region having obtained the lowest accident experience among Government employees. We proudly announce that Region 4 is hereby named as the recipient of the first Commissioner's Annual Safety Award in recognition of an exemplary safety record established during calendar year 1961. The award certificate and letter of commendation will be forwarded soon. Meanwhile, congratulations and keep up the good work."

--F. E. Dominy

* * * * *

"ANTI-ROLL BARS" ON TRACTORS SAVE LIVES

Agriculture leads all major industry groups in the number of accidental deaths and ranks fourth in the number of disabling injuries.

Prominent among the causes are accidents involving farm tractors. The North Dakota Highway Department recently decided something should be done to stem the rise in the farm accident rate. As a result, the Department installed "anti-roll bars" on all of its field mowers.

An "anti-roll bar" is a device constructed of 3-inch pipe welded in a frame and mounted on a tractor, over the driver's seat. Its purpose is to protect the driver in cases where the tractor either tips sideways or backward. The welded-bar frame is bolted to the frame of the tractor.

During the period since installation of the "anti-roll bars" on its field mowers and tractors, the Department reports that five such units were tipped over. These involved two cases of minor injury and a minimum of damage to the units. In view of these reports, the North Dakota Highway Department is convinced that the "anti-roll bar" can be of great assistance in preventing serious injury and death in tractor accidents.

--Journal of the A.S.S.E. - May, 1962

* * * * *

NEW YORK STATE LAW ON SEAT BELTS

Another state has taken legal steps to cut down the tragic and costly results of injuries and deaths on streets and highways. New York State has recently passed a law making mandatory the installation of two sets of automobile safety seat belts on all new cars sold in that State after June 30, 1964. While the new law covers the 1965 models, the car manufacturers perhaps will follow the usual trend of anticipating public acceptance of safety provisions and make seat belts standard rather than optional equipment well before the new law's effective date.

--Safety Engineering - May, 1962

* * * * *

PUBLIC LAW 87-258 (75 Stat. 539)
(Effective March 21, 1962)

This act amends existing law (28 U.S.C. Sec. 2679) to provide for the defense of suits against Federal employees arising out of their operation of motor vehicles in the scope of their employment.

The new language of this amendment applies only when the employee is acting in his official capacity at the time of the incident giving rise to the claim. The Government would not be subject to any liability for acts of the employee resulting from any unauthorized use of Government motor vehicles.

The act grants authority to the Attorney General to defend any civil action against the employee of the Government under the circumstances outlined above. It should be pointed out that there is a distinction between civil (tort) actions and criminal proceedings. The same act may be both a tort against an individual and a crime against the state, and the wrongdoer may be subject to both a civil action in tort and a criminal prosecution. The civil action is intended to compensate the injured party for the damages suffered. The criminal action is to protect and vindicate the interests of the public as a whole by punishing the offender.

The law under discussion provides for the United States Attorney General to defend civil actions. However, because a plea of guilty to a criminal charge arising out of an automobile accident is generally admissible in subsequent civil litigation, recent instructions issuing from the Assistant Commissioner in Washington advise that any Bureau employee involved in an automobile accident while acting within the scope of his employment and who faces a criminal charge, should have the appropriate official of the Bureau immediately contact the Field or Regional Solicitor for legal advice. If neither of these officials are available, contact should be made with the United States Attorney in the area.

Additional information concerning Public Law 87-258 is contained in the following memorandum received from the United States Attorney, District of Colorado:

"This office has had many inquiries concerning Public Law 87-258 (87th Congress, 1st Session), 28 U.S.C. Sec. 2679, particularly with respect to whether it remains advisable for an employee to retain his own motor vehicle liability insurance. ('Drive Other Vehicles Endorsement'.)

"At this time we wish to advise as follows: In the usual case, the risk of personal liability will be

slight. It is unlikely that a case will arise in which the Government will seek indemnity from an employee. But there is some risk that the driver may be held to have been outside the scope of Federal employment when the accident occurred. Thus, the decision should be made by the employee with knowledge that his personal risk has not been entirely eliminated. It may well be that insurance companies will reduce their rates for Federal government employee coverage after they have gained some experience under the new Act."

* * * * *

WATER SAFETY PROGRAM--KANSAS RIVER PROJECTS

As a part of the water safety program (Operation Westwide) on the Kansas River Projects, a series of talks and film showings were made to 21 schools and 4 other group assemblies within the project area. The presentations were made by Project Safety Engineer R. C. Meager during a 2-month period in March and April with a total attendance of some 5,300.

In general, the entire program at each assembly did not exceed 1 hour in duration. It consisted of an introductory talk outlining the basic principles of water safety and types of water hazards. This was followed by the showing of three films entitled "Rescue Breathing-50,000 Lives," "Holger Nielsen Method of Artificial Respiration," and "Boats, Motors, and People." The first two films were made available by the U. S. Bureau of Mines and the third film was from the American National Red Cross. A variety of water safety posters were also furnished by the Red Cross and were distributed to each group for posting on bulletin boards.

* * * * *

SAFETY CERTIFICATE TO KANSAS RIVER PROJECTS

A Department of the Interior Certificate of Safety Achievement has been presented to the employees of the Kansas River Projects Office, McCook, Nebraska, for their completion of over 500,000 man-hours of work without a disabling injury. The accident-free period was from April 12, 1961, to January 12, 1962.

* * * * *

HOLIDAYS ARE DANGER DAYS ON HIGHWAYS

The early hours of a holiday are the most hazardous. During the first 12 hours--6 deaths an hour. During the last 12 hours--4 deaths an hour. Start your trip in plenty of time so you won't have to hurry. Expect extra danger and be extra alert. Slow down at sundown and when you get tired stop.

Danger is just around the corner. For one-half of the fatal accidents happened within 10 miles from home. Two-thirds were within 25 miles of home. Only 7 percent were more than 250 miles from home. So don't let familiarity breed contempt--58 percent of the drivers had driven the death road frequently, 29 percent occasionally, only 13 percent rarely. Stay alert even in familiar territory.

Watch out for you. Three out of five fatal holiday accidents involved only one vehicle, i. e., ran off roadway, hit a fixed object or struck a pedestrian. Have you ever said this? "I'm not worried about my own driving. It's the crazy drivers I meet that scare me." Yet the figures prove that most holiday drivers meet death at their own hands--through excessive speed, distractions, or bad judgement. Heed the traffic signs--they're your Signs of Life.

More than one-half of the fatal accidents on holidays involve a driver who has been speeding or drinking. Speed makes a car harder to stop and harder to control. It gives you less time to react in an emergency and it makes an accident more severe. As for drinking and driving, there is only one rule--DON'T.

--National Safety Council

* * * * *

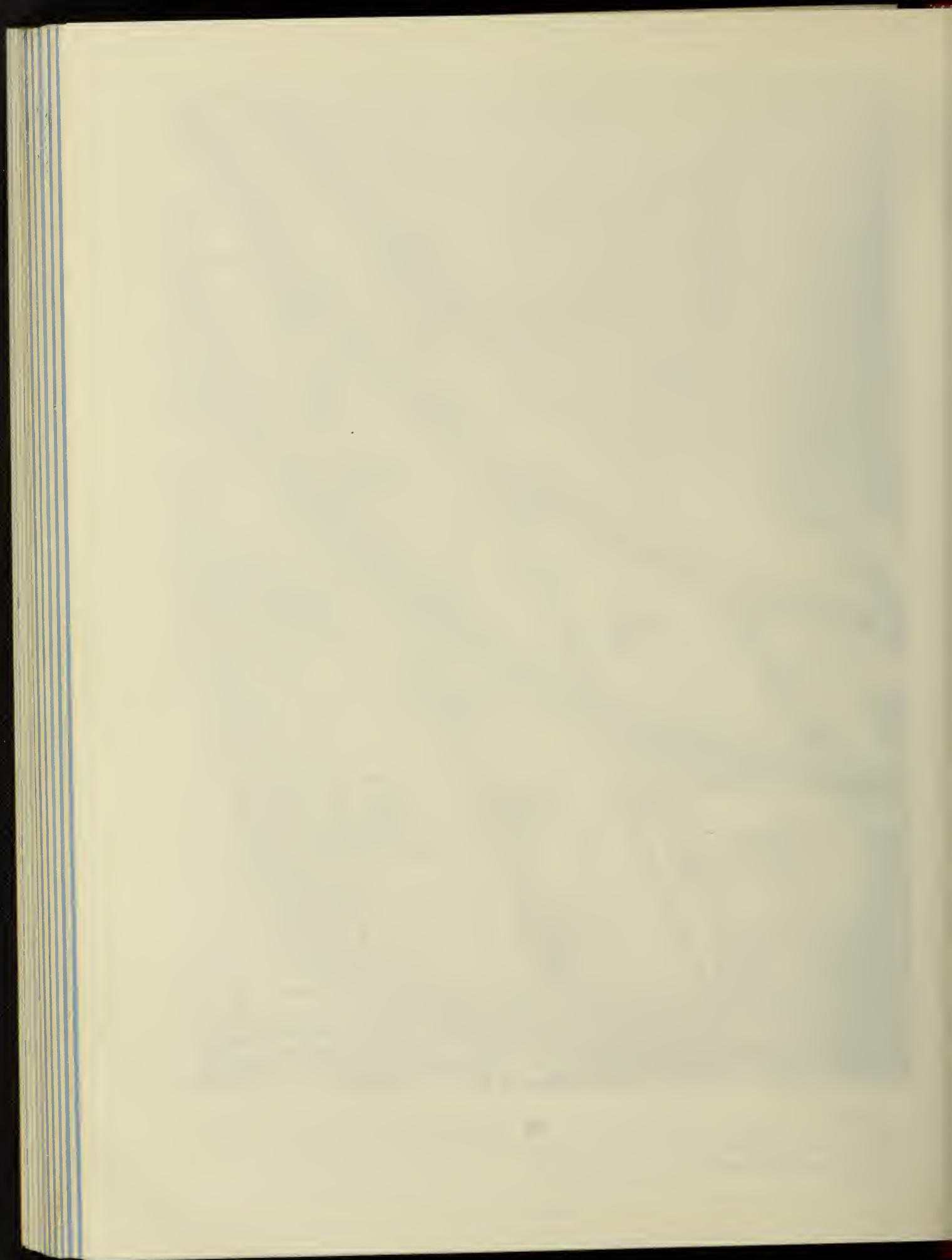
TO AVOID FALLS

1. Wear good shoes
2. Take short steps in slippery places
3. Use handrails and take stairs one at a time
4. Protect yourself with railings when working on scaffolds
5. Use safety belt and line where required
6. If you see a stumbling hazard, remove it
7. Walk, don't run.

* * * * *



P-557-420-6820. Glen Canyon Unit. View showing walkways, ladders, and platforms on downstream face of Glen Canyon Dam. Reclamation photo by A. E. Turner.



DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH... April 30, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	234	39,312	158,760						0.0	0.0		0	0	
Denver Office and Laboratories	1,414	237,552	947,440	1				28	1.1	2.3		30	6,901	
Alaska District	23	5,479	20,074						0.0	0.0		0	0	
REGION 1														
Boise Regional Office	277	42,947	170,734						0.0	18.4		0	31	
Central Snake Projects	48	8,675	28,779	1				1	34.7	34.8		35	70	
Chief Joseph Dam Project	41	5,691	18,784						0.0	0.0		0	0	
Columbia Basin Project	861	144,648	580,688	5				22	8.6	19.0		38	138	
Crooked River Project	0	0	3,150						0.0	0.0		0	0	
Hungry Horse Project	51	8,839	35,702	1	1		14	14	28.0	0.0	1,584	392	0	
Minidoka Project	165	25,370	98,431	2				7	20.3	9.4		71	19	
Rogue Project	24	5,003	23,937						0.0	0.0		0	0	
The Dalles Project Office	37	5,844	21,230						0.0	0.0		0	0	
Vale Project	16	2,429	8,769						0.0	0.0		0	0	
Yakima Project	30	4,635	17,750	1	1			3	56.3	0.0		169	0	
Totals and Averages	1,550	254,081	1,008,014	1	10		14	47	9.9	12.4		55	47	86
REGION 2														
Sacramento Regional Office	585	98,280	391,152	3				9	7.7	6.0		23	12	
Folsom Field Division	57	11,467	45,802						0.0	0.0		0	0	
Fresno Field Division	154	25,872	102,224	1	1			27	9.8	10.0		264	591	
Shasta Field Division	116	19,679	77,727	1	1		96	96	12.9	0.0	4,878	1,235	0	
Treacy Field Division	181	30,813	124,257	2				36	16.1	0.0		290	0	
Distribution System Projects CVP	32	5,740	26,443						0.0	0.0		0	0	
El Dorado Projects CVP	47	7,896	30,224						0.0	28.5		0	86	
Red Bluff Office CVP	74	12,432	35,850						0.0	0.0		0	0	
San Luis Unit CVP	185	30,095	110,166						0.0	0.0		0	0	
Trinity River Division CVP	284	50,232	192,506						0.0	15.6		0	258	
Klamath Project	42	7,189	29,076						0.0	30.1		0	512	
Lahontan Basin Project	52	8,726	35,776						0.0	0.0		0	0	
Totals and Averages	1,819	308,431	1,202,203	1	7		96	168	5.8	7.9		311	140	130
REGION 3														
Boulder Regional Office	125	22,000	84,120						0.0	0.0		0	0	
Boulder Canyon Project	154	28,361	109,168	2	3		80	89	27.5	56.1	2,821	815	1,142	
Colorado River FW&S	73	10,471	44,439	1	1			2	22.5	20.3		45	793	
Parker-Davis Project	267	44,329	185,343	1	1		4	4	22.6	5.4	10.8	90	22	276
Phoenix Development Office	55	10,200	37,040	1	1		1	1	98.0	27.0		98	27	
Yuma Projects Office	142	21,077	94,026						0.0	52.6		0	247	
Totals and Averages	816	136,438	554,136	4	6		85	96	29.3	10.8		623	173	460
REGION 4														
Salt Lake Regional Office	311	60,251	209,656						0.0	0.0		0	0	
Emery County Project Office	16	2,190	5,632						0.0	0.0		0	0	
Central Utah Projects Office	153	25,588	103,627	2				98	19.3	21.1		946	116	
Curecanti Unit CRSP	63	11,327	43,695						0.0	134.9		0	135	
Flaming Gorge Unit CRSP	139	22,816	84,710						0.0	0.0		0	0	
Glen Canyon Unit CRSP	324	54,432	218,072	2				761	9.2	4.8		1,490	71	
Navajo Unit CRSP	56	11,222	42,283						0.0	0.0		0	0	
Transmission System Office CRSP	83	17,944	62,760						0.0	0.0		0	0	
Durango Projects Office	89	14,539	60,590	1				8	16.5	0.0		132	0	
Grand Junction Office	128	20,304	89,848	1				14	11.1	0.0		378	0	
Logan Development Office	13	2,368	9,166						0.0	0.0		0	0	
Sedakader Project	63	10,728	42,636						0.0	0.0		0	0	
Upper Green River Office	23	3,760	17,900						0.0	0.0		0	0	
Weber Basin Projects	178	29,894	109,572						0.0	10.3		0	621	
Totals and Averages	1,645	283,360	1,100,147	6				901	5.5	5.3		819	92	
REGION 5														
Amarillo Regional Office	106	16,960	74,692						0.0	10.8		0	43	
Albuquerque Development Office	27	4,893	8,413						0.0	0.0		0	0	
Austin Development Office	77	10,993	47,468						0.0	0.0		0	0	
Canadian River Project	101	24,420	66,802						0.0	0.0		0	0	
Lower Rio Grande Rehab. Project	61	10,448	43,948						0.0	22.5		0	90	
Middle Rio Grande Project	253	39,830	178,717	2	3		22	24	16.8	29.8		552	134	321
Norman Project Office	49	7,351	20,980						0.0	0.0		0	0	
Oklahoma City Development Office	31	4,909	20,854						0.0	0.0		0	0	
Rio Grande Project	285	50,288	191,744	4				15	20.9	15.7		78	105	
San Angelo Project	83	14,746	65,103	2				99	30.7	40.8		1,521	95	
Washita Basin Project	39	9,371	31,731						0.0	0.0		0	0	
Wichita Project	28	5,684	22,399	1				1	44.6	0.0		45	0	
Totals and Averages	1,150	199,893	772,852	2	10		22	139	10.0	21.8		110	180	164
REGION 6														
Billings Regional Office	226	36,320	141,192						0.0	0.0		0	0	
Canyon Ferry Project	18	2,891	12,250						0.0	0.0		0	0	
East Bench Project Office	67	11,841	47,048						0.0	0.0		0	0	
Fort Peck Project	28	5,196	21,742						0.0	43.6		0	1,221	
Missouri-Osage Projects Office	252	40,320	163,193	2				242	12.2	8.2		1,483	82	
Missouri-Souris Projects Office	132	20,021	87,130	1				6	11.5	11.9		69	71	
Power System Operations Office	38	6,080	26,800						0.0	0.0		0	0	
Riverton Project	29	4,790	18,585						0.0	0.0		0	0	
Upper Missouri Projects Office	106	16,266	62,313	1				3	16.0	37.1		48	463	
Yellowtail Project Office	97	22,408	65,484						0.0	0.0		0	0	
Totals and Averages	1,000	166,133	645,742	4				251	6.2	9.1		389	126	
REGION 7														
Denver Regional Office	157	26,376	107,112						0.0	0.0		0	0	
Denver Development Office	30	5,168	18,336						0.0	0.0		0	0	
Kansas River Projects	329	55,272	219,020	1				8	4.6	13.7		37	316	
Niobrara-Lower Platte Projects	334	53,440	212,480						0.0	6.3		0	25	
North Platte River Projects	283	45,360	183,200						0.0	5.3		0	5	
South Platte River Projects	169	28,392	114,962	1				14	8.7	8.9		122	18	
Totals and Averages	1,302	214,008	855,110	2				22	2.3	7.6		26	97	
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	10,963	1,844,687	7,264,478	8	46	0	217	1,652	4.3	6.3	10.8	118	227	1,030
TOTALS THIS YEAR (1962)	10,472	2,125,640	8,551,110	162	1			9,076	7.6			427		

* FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH... April 30, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANOARO TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	65	6,481	28,350						0.0	0.0		0	0	
Columbia Basin Project	171	25,177	96,638		1			3	10.3	0.0		31	0	
Crooked River Project	0	0	240						0.0	0.0		0	0	
Hungry Horse Project	6	55	345						0.0	0.0		0	0	
Minidoka Project	6	283	5,839						0.0	0.0		0	0	
Rogue Project	42	7,300	28,656						0.0	14.0		0	70	
Vale Project	5	280	280						0.0	-		0	0	
Yakima Project	10	561	7,577						0.0	0.0		0	0	
Totals and Averages	308	40,137	167,925		1			3	6.0	4.8		18	24	
REGION 2														
Sacramento Regional Office	0	0	1,035						0.0	786.8		0	7,868	
Distribution System Projects Office	112	15,920	73,619		3			78	40.8	56.3		1,060	56	
El Dorado Project Office CVP	123	14,819	44,866	1	3		8	53	66.9	128.4	540	1,181	1,348	
Red Bluff Office CVP	71	8,030	12,429						0.0	-		0	-	
San Luis Unit CVP	0	0	1,110						0.0	-		0	-	
Trinity River Division CVP	810	127,823	556,497	6	24		108	437	46.9	63.8	845	785	10,535	
Klamath Project	29	3,560	15,506						0.0	0.0		0	0	
Totals and Averages	1,150	170,152	705,062	7	30		116	568	41.1	42.5	65.3	682	806	9,890
REGION 3														
Boulder Canyon Project	0	0	1,626						0.0	0.0		0	0	
Yuma Projects Office	55	11,854	33,234	1	1		26	26	84.4	30.1	15.6	2,193	782	578
Totals and Averages	55	11,854	34,860	1	1		26	26	84.4	28.7	19.9	2,193	746	558
REGION 4														
Central Utah Projects Office	63	9,834	22,275	1	1		61	61	101.7	44.3	52.5	6,203	2,738	368
Guerreant Unit CBSP	111	13,075	33,356						0.0	-		0	-	
Emery County Project	1	44	242						0.0	-		0	-	
Flaming Gorge Unit CBSP	806	134,301	356,148	3	5		45	98	22.3	14.0	9.1	335	275	880
Glen Canyon Unit CBSP	1,604	257,027	951,448	7	20		529	1,089	27.2	21.0	16.8	2,058	1,145	586
Navajo Unit CBSP	427	87,604	200,648	3	4		124	171	34.2	19.9	4.0	1,415	852	20
Florida Project	143	27,585	92,525		5			137	54.0	-		1,481	-	
Grand Junction Office	177	25,524	100,648		2			14	19.9	11.2		139	45	
Seedskadee Project Office	129	27,771	59,626		1			5	16.8	-		84	-	
Weber Basin Projects	151	20,138	51,264	1	3		14	17	49.7	58.5	0.0	695	332	0
Totals and Averages	3,614	602,903	1,868,180	15	41		773	1,592	24.9	21.9	14.6	1,282	852	511
REGION 5														
Canadian River Project	82	19,797	24,656						0.0	-		0	-	
Lower Rio Grande Rehab. Project	255	26,084	91,988	1	2		1	2	38.3	21.7	0.0	38	22	0
Middle Rio Grande Project	24	4,687	11,319						0.0	0.0		0	0	
San Angelo Project	520	81,305	408,551		10			98	24.5	53.0		240	801	
Washita Basin Project	97	18,748	88,581	2	5		5	32	106.7	56.4	23.4	267	361	195
Wichita Project	9	789	1,404						0.0	-		0	-	
Totals and Averages	987	153,410	626,501	3	17		6	132	19.6	27.1	34.2	39	211	481
REGION 6														
East Bench Project Office	180	22,630	66,344	2	3		5	38	88.4	45.2	29.3	221	573	176
Missouri-Ogish Projects Office	234	21,929	72,829	1	2		5	6	45.6	27.5	141.4	228	82	613
Missouri-Souris Projects Office	38	4,163	18,859		2			150	106.1	39.3		7,954	1,415	
Riverston Project	32	4,914	7,710						0.0	0.0		0	0	
Upper Missouri Projects	4	112	112						0.0	0.0		0	0	
Yellowtail Projects	366	80,588	242,026		1			24	4.1	0.0		99	0	
Totals and Averages	854	134,336	407,880	3	8		10	218	22.3	19.6	45.3	74	534	687
REGION 7														
Kansas River Projects	277	54,971	127,882		1			10	7.8	0.0		78	0	
Nicholls-Lower Platte Projects	379	70,054	143,049		1			9	7.0	8.1		63	646	
North Platte River Projects	11	1,350	6,940						0.0	36.4		0	765	
Smith Platte River Projects	8	703	2,955						0.0	0.0		0	0	
Totals and Averages	675	127,078	280,826		2			19	7.1	6.6		68	335	
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	7,438	1,239,870	4,091,234	29	100	0	931	2,558	23.4	24.4	25.9	751	625	2,062
			15,215,753		367	12		90,162		24.1			5,926	

* FATALITIES INCLUDED IN TOTAL DISABLING

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SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

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May 1962

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Safety Performance Record

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Front Cover Photo: Irrigation Supervisor Ed Neal presenting safety plaque to Al Colwell, Franklin Branch Manager, while Assistant Irrigation Supervisor Don Humes looks on. Columbia Basin Project.

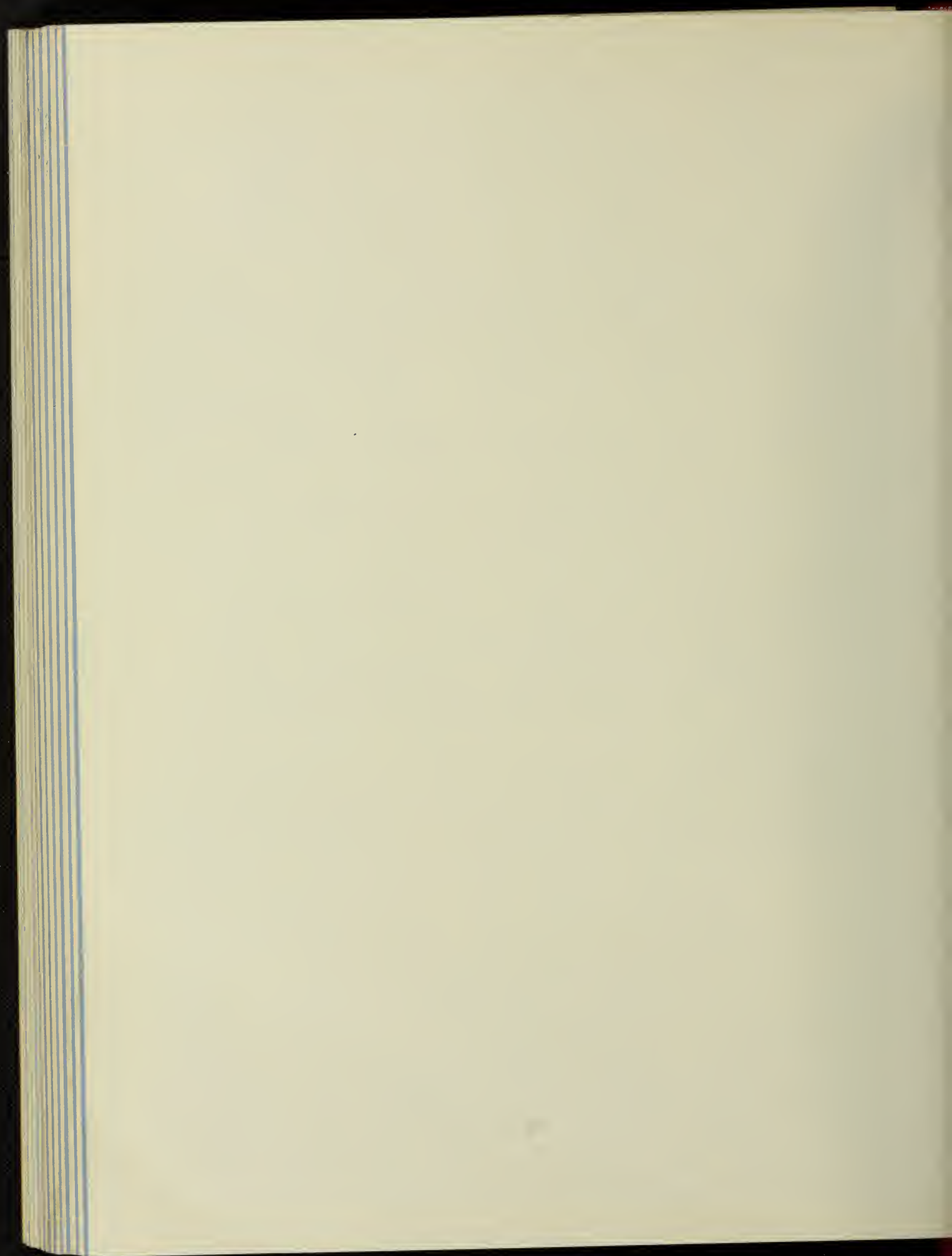
SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

SAFETY PLAQUE TO FRANKLIN IRRIGATION BRANCH COLUMBIA BASIN PROJECT

The front cover photo shows Columbia Basin Irrigation Supervisor Ed Neal (right) presenting Irrigation's "Best Safety Record" plaque to Al Colwell, Franklin Branch Manager (center) while Assistant Irrigation Supervisor Don Humes (left) looks on.

The plaque is awarded annually to the Irrigation Branch on the Columbia Basin Project having the lowest accident frequency rate and was first presented for the calendar year 1959. The Franklin Branch won the plaque in 1959 and also repeated again in 1961. They had a record of no lost-time accidents with a man-hour exposure of 90,184 for 1961. The plaque will be awarded permanently to the Irrigation Branch winning it the greatest number of times during a 12-year period.

Mr. Allen Colwell has been Manager of the Franklin Branch since November 1959. He has been with the Bureau of Reclamation since July 1939 with the exception of 6 years of military service as Captain (Corps of Engineers) during the war years. Mr. Colwell is a graduate Civil Engineer from the University of Washington.



BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES

January 1, 1962 - May 31, 1962

Region	Frequency rate	Severity rate	Injury* index	Vehicle accident rate
Alaska District	0.0	0	0	79.9
Region 7	1.8	20	0.4	4.7
Region 6	4.9	308	15.1	3.1
Region 2	5.2	146	7.6	3.3
Region 4	5.7	4,947	282.0	3.9
Region 3	10.1	146	14.7	5.6
Region 5	10.1	157	15.9	2.8
Region 1	11.0	518	57.0	0.5

Totals to Date 1962	5.9	907	53.5	3.4
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Totals Last Year	7.6	427	32.5	4.6
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*Injury index is equal to the frequency rate times the severity rate, divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES

January 1, 1962 - May 31, 1962

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	5.1	15	0
Region 7	8.8	558	0
Region 4	18.9	3,060	1
Region 6	23.1	813	0
Region 3	23.2	604	0
Region 5	31.8	379	0
Region 2	41.6	768	0

Totals to Date 1962	23.2	1,767	1
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Totals Last Year	24.1	5,926	12
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LOST TIME ACCIDENT ANALYSIS

Government Forces--1962

Cumulative to Date:
May 31, 1962

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost	Type	Description	No.	Days lost
5	Vehicles	2	3	16	Striking Against	1	10
10	Flash Burns	1	4	17	Flying Particles	1	2
12	Handling Material	14	259	18	Hand Tools	5	63
13	Falling Objects	6	725	19	Machinery	1	5
14	Falls of Persons	14	7,202	20	Not otherwise classified	9	90
Totals						54	8,363

B. OPERATIONAL SUMMARY

Operation	Man-Hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	2,106,224	3	745	1.4	354
Construction	2,247,446	13	6,429	5.8	2,861
Design	976,263	1	28	1.0	29
Investigation	1,225,408	4	655	3.3	535
O&M-Irrigation	1,199,568	18	205	15.0	171
O&M-Power	1,466,609	15	301	10.2	205
Totals	9,221,518	54	8,363	5.9	907

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3-3-62	Construction Inspector	Fell from pole while raising safety strap	180
4-9-62	Electrician	Fell while climbing bushing on oil circuit breaker	96
5-14-62	Surveying Aid	Fell from bridge pier into river and drowned	*6,000
5-9-62	Drill Helper	Drill drive hammer struck hand	600

*Standard Time Charge - Fatality

ACCIDENT REVIEW

DROWNING

Employer: Government

Activity: Raising of guide ropes used in cross sectioning of river area.

Accident Situation and Occurrence: In order to take soundings, a system of rigging composed of three lines had been established across the river by a survey crew. The endless manila line was used to pull the boat back and forth across the river. The other two cables were used as safety and guide lines for the boat. Returning to work after the weekend, the survey crew found the lines across the river had become entangled and were dragging in the water.

In order to raise the lines out of the water, the crew went to the left bank of the river near a bridge abutment. One employee climbed down to the top of the abutment beneath the bridge and tied two lengths of manila rope to the lines. One rope was passed underneath the bridge on the upstream side and secured to a truck bumper. The other rope was passed underneath the bridge on the downstream side, and fastened to the other end of the bumper. The truck was then backed up to pull and raise the lines from the water.

Apparently one of the attached ropes parted and this allowed the other rope to whip across the abutment where the employee was standing and sweep him into the river which was near flood stage. Rescue attempts by his coworkers were unsuccessful and he disappeared under the water approximately 150 yards downstream from where he fell into the river.

Cause Determination: Life jackets were available but the victim was not wearing one at the time he fell from the bridge abutment into the river. The employee should have been required to leave the abutment and stand in the clear of all ropes before any strain was applied by the truck. Adequate measures have been adopted to prevent recurrence of this type of accident.

CONVEYOR BELT

Employer: Contractor

Activity: Placing of rock ladder at aggregate plant.

Accident Situation and Occurrence: The employee was directing placement of a rock ladder below the head pulley of an elevated

aggregate conveyor belt. The ladder was being placed by use of a crane boom. Access to the conveyor system was by way of elevated catwalk which extended to within 3 feet of the head pulley or end of the conveyor belt. However, the employee moved out beyond the end of the catwalk to direct the operation. His clothing was caught by the revolving pulley shaft which whirled the employee around, causing fatal injuries.

Cause Determination: The employee did not need to go out beyond the area of the protected catwalk to signal the operator. Ends of pulley shafts should be guarded where there is a possibility of contact by employees. As the accident occurred at night, additional lighting is being provided to eliminate need for an employee to be stationed on the conveyor system to direct placing of rock ladders.

CORE DRILLING OPERATION

Employer: Government

Activity: Core drilling operations.

Accident Situation and Occurrence: The employee was engaged in his regular work of assisting in core drilling operations. The drill hammer was being lowered when a strong gust of wind caused the employee to lose his balance. He involuntarily threw up his hand to regain his balance and his thumb and index finger were caught between the hammer and the drivehead on the pipe casing. As a result, he lost a portion of his right thumb with a standard time charge of 600 days for loss of member.

Cause Determination: If a protective housing is provided around the collar, the possibility of a recurrence of this type of accident will be minimized. The housing will be provided if at all possible to do so on this type of drilling operations.

MOTOR SCRAPER

Employer: Contractor

Activity: Operation of motor scraper.

Accident Situation and Occurrence: A motor equipment operator had dumped a load of earth material on the fill and was returning for another load. He began descending the exit ramp (81 feet long on 4:1 slope) from the fill on his motor scraper. The machine began to accelerate rapidly and the operator then lost control of the scraper.

He was bounced from his seat onto the ground and received severe head and back injuries. The lost time was estimated at 231 days.

Cause Determination: The motor scraper was found to be in good mechanical condition. Descending the ramp at too great a speed was the primary cause of this accident. The machine had descended in fourth gear when the lower third gear should have been used by the operator.

FALL

Employer: Contractor

Activity: Tightening bolt on conveyor frame in aggregate plant.

Accident Situation and Occurrence: An ironworker was standing on the cross bracing of a supporting bent which was about 10 feet off the ground. He was using a pipe wrench and a homemade wrench to tighten a bolt that connected the conveyor frame to the bent. The pipe wrench slipped off the nut causing the employee to lose his balance and fall about 10 feet to the ground. He received fractures of the arm, hand, and pelvis bones. Time lost was estimated at 180 days.

Cause Determination: The employee was not tied off with a safety belt. Also he was using improper tools for the job.

POWER WINCH

Employer: Contractor

Activity: Using power winch to move tractor up 2:1 slope.

Accident Situation and Occurrence: The employee was on a D-4 tractor in a tunnel. The bolts in the right drive flange were broken which prevented use of the regular power of the tractor to get up the 2:1 slope. He was using his power winch to move the tractor after connecting a 5/8-inch wire cable to the drawbar of a stationary tractor located some 35 feet above him at the portal. The tractor was about 20 feet up the slope, when the cable broke and the tractor started sliding back. The operator attempted to jump off but became caught between the anchor brace and the tractor pads. He received a knee laceration, and the time lost was estimated at 21 days.

Cause Determination: A larger size cable on the power winch should have been used to move the heavy load.

FALLING ROCK

Employer: Contractor

Activity: Tunneling operations.

Accident Situation and Occurrence: A miner was standing on the platform of a raise climber in the tunnel. He, with two other employees, was lifting a drill onto the platform. A rock fell out of the raise and struck the miner on the back. Lost time from the back injury was estimated at 21 days.

Cause Determination: Loose rock had not been scaled down before entering the drilling area. Complete barring down of rock should be done before starting a round of drilling.

FROM THE FIELD

Region 6: There were no lost-time injuries to Government forces during the month. This indicates that the monthly supervisory safety meetings, along with the weekly toolbox meetings, are proving to be effective in reducing our injury experience. The employment of additional summer help usually presents the problem of increased injuries if these employees are not properly indoctrinated in safe working methods. Proper placement of seasonal employees through careful screening and assignment based upon their experience and physical condition will help reduce injuries. It will take the concerted efforts of all supervisory personnel and of every employee to accomplish such a reduction. From Regional Safety Committee Minutes: Mr. Anderson, Chief, Construction Branch, suggested Regional Safety Personnel be provided appropriate cameras and that extensive use be made of photographs of actual working conditions, unsafe equipment, water safety hazards, etc., in safety work. The suggestion was accepted by the committee. Letters from the Missouri-Oahe Project and the Assistant Commissioner and Chief Engineer regarding utilization of rotation engineers in the field of safety were reviewed. It was the consensus of the committee that all rotation engineers expressing an interest in safety work should be assigned for a sufficient period of time to evaluate their interest and possibilities in the field. It was also the general consensus that a brief assignment of all rotation engineers in the field of safety would enhance the safety movement in the future.

Canadian River Project: Bureau supervisors were furnished a publication entitled, "Fifty Short Safety Talks" to assist in holding 5-minute on-the-job safety meetings. There were thirty-one 5-minute meetings held during the month. Topics discussed were snake and insect bites and their treatment; safe driving and highway courtesy; prevention of grass fires; means of handling high-voltage equipment; and forms used in reporting injuries or accidents.

Rio Grande Project: Excerpts from the Project Safety Committee meeting: One concern was that of an employee being sent to a physician for treatment of a minor injury and the physician suggested the employee take a day or two off to recuperate. A great number of these minor injuries do not incapacitate an employee from doing his work. To remedy this situation, it was concluded that the examining physician be contacted to ascertain the extent of the injury.

It was brought out that in certain instances supervisors on construction work (rehabilitation) were not following suggestions to provide safe working conditions. It was agreed that Branch Heads are responsible for the safety program in their division and that effective measures must be taken to correct any disregard of safety rules.

Region 5: We should also look at our minor injuries. Two occurred this month bringing the yearly total to 35. If we eliminate these minor injuries, we will also reduce the disabling injuries. The secret is to provide a safe working environment and apply safe working practices.

Canyon Ferry Project: A barrier consisting of a cable run through 55-gallon drums, was installed upstream from Canyon Ferry Dam to keep boats from approaching too close to the dam and spillway area.

South Platte River Projects: Excerpts from Project safety meetings: Mr. H. J. Fisher, Superintendent, Transmission Lines and Substations Branch, gave a blackboard talk on weights per foot of various size conductors and indicated these should be kept in mind and referred to when working on stringing or removing lines. He cautioned that single manila or fibre rope may not stand the strain; therefore stranded wire ropes on winches or ropes with block and tackle should be used. Mr. Brown reported that 300 Project Water Safety posters had been received and distributed to the Larimer County Recreation Association and other operators of South Platte River Projects recreation areas. The Water Safety press releases for newspapers and radio, given to Mr. Brown by Niobrara, have also been distributed.

Upper Columbia Development Office: With the approaching season for swimming, boating, and other water sports, a Red Cross sound film presentation entitled, "Rescue Breathing" was selected for showing at the safety meeting for the month of May. Those who saw the film, a total of 30, included the Safety Committee and supervisors, as well as other members of the staff.

Niobrara-Lower Platte Projects: The first safety meeting attended by representatives of the contractor, Bushman Construction Company, Specifications No. DC-5701, and Bureau supervisory personnel was conducted by the Construction Engineer at St. Paul, Nebraska, May 23. Regional Safety Engineer H. E. Stradley, Projects Safety Officer L. K. Simon, and Projects Engineer L. S. Higgs also attended this meeting. Discussion showed that contractor representatives are aware of the necessity for constant attention to safety practices and protective features and that they intend to cooperate with the Bureau to the fullest extent.--It was reported that seat belts were now being installed in all Government vehicles and that final delivery of 22 additional belts was received May 14. All 1962 auto sedans and sedan deliveries have had seat belts installed, and that the others will be installed as soon as possible by the GSA mechanics. The safety committee urges that some action be taken to assure that the seat belts will be used. A good approach

would be that the drivers be responsible not to move their vehicles until assuring themselves that all safety belts had been fastened.-- REA men recently pointed out a safety hazard at the damsite. Sand had been piled up to within 6 or 8 feet of a 7,200-volt powerline. Someone on the top of the pile could easily have been electrocuted. The sand was knocked down to the 15-foot clearance recommended. Also, the 7,200-volt line going to the carpenter shop was reduced to 220 volts as it was running near the contractor's batch plant.

Yuma Projects Office: Chain-link fencing has been ordered for installation around a portion of the California Wasteway structure. This fencing will help to eliminate the possibility of someone falling into the discharge side swift current.--The Projects Safety Officer taped two 3-minute talks on the dangers of swimming in canals. These tapes were put on the air several times by a local radio station.

WATER SAFETY

WATER SAFETY MEETINGS

Governor's Recreational Boating and Water Safety Training Conference. McCall, Idaho, May 7-9, 1962. This conference was called for the purpose of acquainting Idaho Law Enforcement Officers and State Game Commission employees with the State's Water Safety Law. Representatives of the Coast Guard, Corps of Engineers, Red Cross, and Bureau of Reclamation were the instructors.

Regional Safety Engineer H. E. Wersen's presentation covered Reclamation installations in Idaho stressing the need for public observance of regulations at critical areas around our plants and reservoirs. It was explained that Reclamation constructs these facilities and then turns some of them over to Irrigation Districts, Canal Companies, and other agencies to operate. Also that Reclamation needed their cooperation and help because we still had an obligation to public safety. The Reclamation-Red Cross "Operation Westwide" program was outlined to the group. Mr. Wersen showed the Red Cross film "Boats, Motors, and People" along with the film "Rescue Breathing."

The conferees will go back to their respective areas and carry out an educational program on water safety for the general public.

American Red Cross National Convention. Seattle, Washington, May 13-16, 1962. Regional Safety Engineer H. E. Wersen, Boise, Idaho, attended and was a member on the water safety panel. The theme of this session was "Safety In, On, and About the Water." The Assistant National Director of Water Safety, Richard L. Brown, gave a report on the current status of this program. As a panel member, Mr. Wersen answered questions and outlined "Operation Westwide," our cooperative program with the Red Cross. It was reported that many of the speakers lauded the efforts of the Bureau of Reclamation for activating and supporting such an overall public recreational safety program.

SWIM AND STAY FIT

Swimming regularly is an ideal way to improve and maintain physical fitness, according to the American National Red Cross, which has organized a "Swim and Stay Fit" program to promote this idea. The Red Cross is encouraging individuals to participate in its program of swimming regularly and frequently until they have swum 50 or more miles. Except for the initial 3 miles, individuals must swim in multiples of 440 yards. For the initial

3 miles, the only requirement is that the swimmer complete each 440 yards during 1 visit to the facility. The 440 yards need not be swum continuously; the swimmer may stop and rest as often as necessary. Each 440 yards swum is counted as 1 segment with 200 segments required to complete the 50 miles. The Red Cross stresses that participants in this program must be constantly supervised to ensure their safety during the swim.

In open water, a boat equipped with a reaching pole and an oarsman and one other person capable of making a rescue must accompany the swimmer. The "Swim and Stay Fit" activity is not an endurance contest, but is meant to encourage swimming as a way of keeping fit.

Each Chapter of the American National Red Cross has available activity materials, individual record sheets, achievement cards, pins, and emblems for use in promoting the "Swim and Stay Fit" program.

CAMPAIGN MATERIAL READY FOR "EVERYONE LEARN TO SWIM"

The "Everyone Learn to Swim" campaign is motivated by a single fact; each year about 6,500 Americans drown. In 1960, 2,500 cases occurred in the age group 25 to 64; 15- to 24-year olds numbered 1,350; and 5- to 14-year-old children drowned numbered 1,400. The remaining 750 were 0 to 4 years old. Eighty-six percent of the people who drowned were male. In only 2,500 of the cases were the victims swimming. The remaining 4,000 were people who fell from docks, piers, and boats.

"Everyone Learn to Swim" is a fully implemented national program developed by the National Safety Council in cooperation with local Red Cross units. Special training and demonstration sessions have been prepared for presentation to groups. In addition, a number of films are available to illustrate safe swimming practices. For more details and a list of materials available for the campaign, write to Ralph Kuhli, Director, Public Safety Department, National Safety Council.

SUGGESTIONS FOR BOAT OPERATORS

The National Fire Protection Association lists these pointers for preventing fires while preparing boats for the water.

1. Good housekeeping is the first line of fire defense here as anywhere. So don't let oily rags accumulate and remove sawdust and wood shavings promptly.

2. For getting off the old paint, scraping, hand and machine sanding, wire brushing, and use of nonflammable removers are safest. If flammable liquids must be used, work should be done in the open air.

3. While painting boat interiors, or working in an enclosed area, provide good ventilation, do not operate any spark-producing equipment, or allow any open flames, and observe strict "no smoking" rule.

4. Get professional help for all welding, brazing, soldering, or cutting operations and insist on the highest professional standards for safety during such work.

5. Keep an extinguisher or garden hose handy for prompt use in case a fire should start.

LETTER OF COMMENDATION
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Washington 25, D.C.

May 29, 1962

Mr. Charles R. Frank
Contra Costa Canal Section
Tracy Field Division
Region 2
Antioch, California

Dear Mr. Frank:

We recently learned of your splendid action in saving a 2-year child from drowning in the Contra Costa Canal on April 17, 1962. Your alertness in observing the boy and your immediate response to the situation are worthy of the highest praise. By your deed, you prevented what would have been a tragic occurrence. We wish to take this opportunity to add our expressions of gratitude and commendation to the many others you undoubtedly have received.

Sincerely yours,

(Sgd.) B. C. Hammock

Acting Assistant Commissioner

* * * * *

CORRECT WEAR AND CARE OF HEAD PROTECTION

1. Workers using safety hats or caps should always wear them squarely on the head. The suspension is not designed to be worn on the side or back of the head.
2. Head protection should never be worn over other types of hats or caps and winter liners should be those specifically designed to be used with safety hats and caps.
3. The sweatband does not absorb any of the force of the blow. It is designed to hold the hat on the head of the wearer and should not be adjusted too tightly to cause discomfort.

4. When there is danger of the hat or cap falling off the head, or being blown off, a chinstrap should be used.
5. All industrial safety hats and caps are designed to permit air circulation. The practice of boring holes in the crown for ventilation should be prohibited.
6. The wearer should always make certain there is adequate crown clearance between the top of his head and the inside of the crown.
7. A wearer should never attempt to repair a safety hat or cap. When necessary, because of wear or damage, the head protection should be replaced immediately.
8. A periodic inspection of safety head protection should be made to check for cracks, dents, nicks, or abrasions of the crown and for soundness of the suspension and sweatbands. A system of replacement should be established so that all workers may have their head protection inspected at frequent intervals and, when indicated, the hat or cap should be replaced. A general rule adopted by many industries is to replace the suspension two or three times yearly and to issue new safety hats or caps at least every 24 to 36 months.
9. Hats or caps worn by electrical workers and used for high-voltage as well as impact protection should be replaced at the first sign of a crack or abrasion, or following a fall or heavy blow.
10. It is recommended that crowns and suspensions be washed in a disinfectant or soap and water at frequent intervals, particularly when they are used by different employees.
11. Safety hats and caps should be handled carefully like any other highly developed piece of equipment. The wearer's life may depend on it. The better the care given to it, the more protection it will offer.

--Safety Maintenance, June 1962

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ON THE SAFETY SIDE

The following objections to seat belts are answered in the National Safety Council Newsletter of April 1962: Most of my trips are local - A survey showed that 47 percent of all car deaths occurred at speeds below 40 mph and 66 percent took place within 25 miles

of the driver's home. Seat belts would be dangerous if my car caught fire or went off the road into water - Cornell University reports that fires occur in only 2/10 of 1 percent of injury-producing accidents. Only 3/10 of 1 percent involve submer-sion under water. Chances are much better that a belted passenger will remain conscious and be able to get out of the car. Seat belts are uncomfortable - Studies show that in dis-tance driving seat belts actually help posture and reduce fatigue. It's too much trouble to be always fastening and unfastening them - Belts can be fastened in 2 seconds flat and loosened with a flick of the wrist. Seat belts are expensive - This is a rela-tive question and depends on how much value you place on life and limb.

Other safety features recommended are padded dash and visor, safety steering wheel and safety door latches. There's no sub-stitute for a good driver.

* * * * *

COMPRESSED AIR ACCIDENT

A Michigan mechanic with a small cut on the side of a finger washed some small parts in cleaning fluid and then, holding them in his hand, he played the airhose on them to dry the parts off. Shortly after, in great pain, he staggered over to the man-ager complaining his body and head felt as if they were going to explode. At the hospital, his ailment was diagnosed as "air bubbles" in the bloodstream caused by the air jet striking the small wound on his finger, forcing entry into the bloodstream. This man recovered but might have died. Using an airhose to "blow off" parts held in the hand is an unsafe practice, as this case bears out.

--Region 4 Safety News

* * * * *



GRADUATION DAY AT COLUMBIA BASIN. Ten Columbia Basin employees pose with their instructor Mr. C. R. Murphy at the completion of one of the many Bureau of Mines First-Aid courses given Project employees. Over 185 CBP employees have successfully completed basic first-aid training during the past 4 years.

Standing left to right are C. R. Murphy, Instructor; Eno Waring, Construction Inspector; Archie Wehtje, General Clerk, Winchester; Donald Davis, Hydraulic Engineering Technician; Joseph Woolf, Irrigation Operator, Winchester; Philip Turner, Storage and Supply Specialist, Ephrata; John Tellinghuisen, Irrigation Operator, Winchester; Vernal Neilson, Irrigation Operator, Moses Lake; R. W. Bolitho, Irrigation Operator, Moses Lake. Kneeling: Glenn Burrows, Chief, Technical Services Branch, Ephrata, and Howard Mullen, Electrical Engineering Technician, Ephrata.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON 25, D.C.

May 22, 1962

RECOMMENDED UNIFORM SAFETY PRACTICE (RUSP) NO. 2-62

To: Heads of Bureaus and the Chief Clerk of the Department
From: Director of Personnel
Subject: Safe transportation, handling, storage and use of
explosives and blasting agents

Explosives have a very definite place in much of the work of the Department of the Interior - ditching, field clearing, construction, mining, etc. While much of this work is contracted out, there are occasions where employees are required to transport, handle, store, and use explosives and blasting agents. It is in such instances that maximum safety must be maintained by supervisors who must assume responsibility of the work done without injury or property damage.

For purposes of the Department's safety program, an explosive is a substance or mixture of substances, the primary purpose of which is to function by explosion. Explosives that, by nature, exhibit low sensitivity to initiation are sometimes classed as blasting agents and the sensitivity criterion commonly used is that when unconfined, a blasting agent will not be initiated by a number 8 blasting cap.

RECOMMENDATION: It is recommended that each bureau and office adopt regulations similar to the following:

The transportation, handling, storage, and use of explosives and blasting agents shall be under the direction of personnel having bureau-approved experience and training to perform this hazardous work. Regulations relating to the storage and handling of explosives are covered in 412 DM 2.5.

Each Bureau shall establish and periodically review its policies and procedures for the safe transportation, handling, storage, and use of explosives and blasting agents to conform with technological advances made by the explosives industry. A determination of the standard skills and knowledge needed by employees who perform this work shall be made.

Officials shall be designated to be responsible for the training and examination of employees assigned to such operations to assure that they meet the bureau's established standards.

I concur: (sgd.) Newell B. Terry
Director of Personnel

(sgd.) H. Stewart McDonald
Director, Division of Property Management

Commissioner's Annual Safety Award

*Dedicated to Conserving Lives
and Property in the Government Service*

Presented to

*In Recognition of an Exemplary
Safety Record During the Year 19*

United States Department of the Interior
Bureau of Reclamation



COMMISSIONER

WASHINGTON, D. C.

19

COMMISSIONER'S ANNUAL SAFETY AWARD CERTIFICATE

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

**SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY**

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH May 31... 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL ²⁵	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	232	41,182	199,924						0.0	0.0		0	0	0
Denver Office and Laboratories	1,322	242,520	1,192,960	1				28	0.8	1.8		23	2,438	
Alaska District	33	5,362	22,619						0.0	0.0		0	0	0
REGION 1														
Boise Regional Office	161	25,444	121,563						0.0	14.5		0	24	
Central Snake Projects	48	7,881	36,660	1			1		27.3	27.9		27	26	
Chief Joseph Dam Project	38	5,959	24,743						0.0	0.0		0	0	
Coeur d'Alene Project	5	776	2,688						0.0	--		0	--	
Columbia Basin Project	824	157,136	737,824	3	8		7	29	19.1	10.8		42	99	119
Crooked River Project	0	0	3,150						0.0	0.0		0	0	
Hungry Horse Project	26	9,705	42,407	1				20	22.0	0.0		440	0	
Lower Columbia Development Office	37	6,859	30,102						0.0	0.0		0	0	
Minidoka Project	161	23,105	121,536	2				7	16.5	7.6		58	8	
Rogue Project	23	4,881	28,820						0.0	0.0		0	0	
Snap River Development Office	42	6,363	33,541	1	1		600	600	157.2	29.8		94,295	17,889	
The Dalles Project Office	32	5,628	26,918						0.0	--		0	--	
Upper Columbia Development Office	37	6,120	28,402						0.0	0.0		0	0	
Vale Project	18	2,782	11,221						0.0	0.0		0	0	
Yakima Project	28	3,836	21,586	1			3		46.3	31.9		129	734	
Totals and Averages	1,540	266,477	1,274,491	4	14		607	660	15.0	11.0	14.7	2,278	218	91
REGION 2														
Sacramento Regional Office	602	105,952	437,104			3		9	6.0	4.7		18	9	
Folsom Field Division	66	12,195	58,997						0.0	0.0		0	0	
Fresno Field Division	152	26,752	128,976	1				27	7.8	15.8		229	2,612	
Shasta Field Division	116	20,614	98,341	1				96	10.2	10.1		976	302	
Tracy Field Division	181	31,210	152,467	1	3		56	92	32.0	19.3		1,794	292	
Distribution System Projects CVP	30	4,756	21,199						0.0	0.0		0	0	
El Dorado Projects CVP	47	8,272	38,496						0.0	22.8		0	68	
Red Bluff Office CVP	85	14,960	50,810						0.0	0.0		0	0	
San Luis Unit CVP	186	33,968	144,134						0.0	0.0		0	0	
Trinity River Division CVP	280	53,728	246,234						0.0	12.2		0	204	
Klamath Project	43	7,690	36,766						0.0	24.1		0	410	
Lahontan Basin Project	56	9,856	45,632						0.0	0.0		0	0	
Totals and Averages	1,844	329,923	1,532,126	1	8		56	224	3.0	2.2	7.7	170	146	332
REGION 3														
Boulder Regional Office	129	22,704	106,824						0.0	0.0		0	0	
Boulder Canyon Project	156	27,648	136,816					84	21.9	44.0		650	894	
Colorado River FW and LS	81	11,954	56,393	1	2		5	7	32.5	16.6		418	124	647
Parker-Davis Project	263	47,071	232,414	1				4	4.3	8.5		17	217	
Phoenix Development Office	56	9,381	46,421	1				1	21.5	--		22	--	
Yuma Projects Office	141	20,973	114,999						0.0	42.8		0	282	
Totals and Averages	826	139,731	693,867	1	7		5	101	7.2	10.1	20.7	36	146	363
REGION 4														
Salt Lake Regional Office	317	51,128	260,784						0.0	0.0		0	0	
Emery County Project Office	20	3,266	8,898						0.0	--		0	--	
Central Utah Projects Office	157	28,641	132,268					98	15.1	16.5		741	91	
Groceries Unit CRSP	70	13,480	57,175	1	1	1	6,000	6,000	74.2	17.5	88.2	442,104	104,941	88
Flaming Gorge Unit CRSP	149	20,997	105,707						0.0	0.0		0	0	
Glen Canyon Unit CRSP	330	60,720	278,792	1	3		21	782	16.5	10.8		346	2,802	56
Navajo Unit CRSP	27	12,530	54,813						0.0	0.0		0	0	
Transmission System Office CRSP	83	13,944	76,704						0.0	0.0		0	0	
Durango Projects Office	91	17,154	77,744	1				8	12.9	0.0		103	0	
Grand Junction Office	130	25,280	115,128	1				34	8.7	0.0		252	0	
Logan Development Office	13	2,332	11,498						0.0	0.0		0	0	
Seedskadee Project	78	11,879	54,515						0.0	0.0		0	0	
Upper Green River Office	27	4,250	22,150						0.0	0.0		0	0	
Weber Basin Projects	191	33,520	143,092						0.0	8.1		0	485	
Totals and Averages	1,713	299,121	1,399,268	2	8	1	6,021	6,922	6.7	2.7	4.1	20,129	4,947	71
REGION 5														
Amarillo Regional Office	104	16,450	91,142						0.0	12.8		0	244	
Albuquerque Development Office	26	4,780	13,197						0.0	--		0	--	
Austin Development Office	77	10,468	57,936						0.0	--		0	--	
Canadian River Project	100	16,786	83,589						0.0	--		0	--	
Lower Rio Grande Rehab Project	61	11,224	55,172						0.0	17.7		0	71	
Middle Rio Grande Project	259	63,370	242,087	3				31	12.4	28.2		128	301	
Norman Project Office	51	7,232	28,212						0.0	--		0	--	
Oklahoma City Development Office	27	4,321	23,175						0.0	--		0	--	
Rio Grande Project	292	24,746	246,430	4			24		16.2	28.6		97	244	
San Angelo Project	82	14,667	79,270	2			99		23.1	10.7		1,241	32	
Washita Basin Project	36	5,720	37,451						0.0	0.0		0	0	
Wichita Project	42	6,502	28,901	1			1		34.6	--		35	--	
Totals and Averages	1,157	216,270	989,122	10			155		10.1	21.1		127	289	
REGION 6														
Billings Regional Office	232	37,232	178,424						0.0	0.0		0	0	
Canyon Ferry Project	20	3,273	13,521						0.0	0.0		0	0	
East Bench Project Office	68	12,028	59,376						0.0	0.0		0	0	
Fort Peck Project	36	5,437	27,179						0.0	70.2		0	1,053	
Missouri-Osage Projects Office	262	44,068	207,266	2			242		9.6	6.5		1,168	65	
Missouri-Souris Projects Office	142	20,922	108,052	1			6		9.3	9.4		56	57	
Power System Operations Office	38	6,080	32,880						0.0	0.0		0	0	
Riverton Project	30	5,185	23,770						0.0	0.0		0	0	
Upper Missouri Projects Office	108	18,486	80,799	1			3		12.4	28.8		37	360	
Yellowtail Project Office	98	15,672	81,156						0.0	0.0		0	0	
Totals and Averages	1,034	168,383	814,125	4			251		4.9	8.7		308	102	
REGION 7														
Denver Regional Office	153	26,928	134,040						0.0	0.0		0	0	
Denver Development Office	30	5,280	23,616						0.0	0.0		0	0	
Kansas River Projects	339	59,664	278,684	1			8		3.6	10.9		29	251	
Nebraska-Lower Platte Projects	337	53,920	266,400						0.0	14.8		0	49	
North Platte River Projects	283	69,220	232,720						0.0	3.9		0	4	
South Platte River Projects	169	29,744	144,706	1			14		6.9	7.0		97	14	
Totals and Averages	1,317	242,056	1,103,166	2			22		1.8	7.9		20	81	
REGION 8														
CONSOLIDATED TOTALS	11,093	1,997,040	9,221,518	8	54	1	6,589	8,363	4.1	5.9	9.9	3,418	907	866
TOTALS LAST YEAR (1961)	10,472		21,298,640		162	1		9,076		7.6			427	

²⁵ FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: _____ CONTRACTOR _____
(Government-Contractor)

PERIOD FROM JANUARY 1, 1952... THROUGH... Nov. 31, 1952...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	56	5,878	34,228						0.0	0.0		0	0	
Columbia Basin Project	104	15,518	112,156			1		3	8.9	9.3		27	65	
Crooked River Project	0	0	240						0.0	0.0		0	0	
Hungry Horse Project	5	312	666						0.0	0.0		0	0	
Minidoka Project	3	170	6,009						0.0	0.0		0	0	
Rogue Project	18	2,755	21,451						0.0	12.3		0	61	
Vale Project	42	2,730	4,010						0.0	--		0	--	
Yakima Project	11	690	8,267						0.0	0.0		0	0	
Totals and Averages	239	29,093	197,027			1		3	5.1	6.8		15	41	
REGION 2														
Sacramento Regional Office	0	0	1,035						0.0	638.2		0	6,382	
Distribution System Projects Office	63	13,521	87,150	1	4		21	99	73.9	45.9	31.8	1,552	1,136	32
El Dorado Project Office CVP	112	2,568	47,434	1	4		2	55	389.4	84.3	107.4	779	1,160	1,127
Red Bluff Office CVP	89	15,664	28,093						0.0	--		0	--	
San Luis Unit CVP	6	1,051	2,166						0.0	--		0	--	
Trinity River Division CVP	198	25,064	581,561		24			437	41.3	56.5		751	8,239	
Klamath Project	41	5,043	20,549						0.0	0.0		0	0	
Lahontan Basin Projects	21	1,167	1,167						0.0	--		0	--	
Totals and Averages	530	64,093	769,155	2	32		23	591	31.2	41.6	56.1	359	768	7,586
REGION 3														
Boulder Canyon Project	0	0	1,626						0.0	0.0		0	0	
Colorado River FW and IS	11	810	810						0.0	--		0	--	
Yuma Projects Office	58	7,348	40,582			1		26	24.6	13.5		641	500	
Totals and Averages	69	8,158	43,018			1		26	23.2	16.3		641	457	
REGION 4														
Central Utah Projects Office	67	8,264	30,539			1		61	32.7	33.9		1,997	237	
Curecanti Unit CRSP	172	23,398	56,754						0.0	--		0	--	
Flaming Gorge Unit CRSP	811	163,210	519,358	1	5	1	6,000	6,095	6.1	9.6	6.2	36,762	11,736	592
Glen Canyon Unit CRSP	1,798	203,226	1,254,674	7	27		303	1,392	23.1	21.5	16.1	999	1,109	583
Navajo Unit CRSP	417	79,038	279,686		4			171	14.3	8.8		611	26	
Emery County Project	5	168	410						0.0	--		0	--	
Florida Project	168	37,715	130,240		3			137	38.4	--		1,052	--	
Grand Junction Office	135	19,775	120,423	1	3		20	34	50.6	24.9	24.7	1,011	282	140
Seedskadee Project Office	231	49,853	109,479		1			5	9.1	0.0		46	0	
Weber Basin Projects	176	33,028	84,292		3			17	35.6	0.0		202	0	
Totals and Averages	3,980	717,675	2,585,855	9	49	1	6,323	7,912	12.5	18.9	14.4	8,810	3,060	475
REGION 5														
Canadian River Project	165	25,281	60,037	3	3		82	82	84.8	50.0	--	2,318	1,366	--
Lower Rio Grande Rehab. Project	178	12,255	104,243		2			2	19.2	0.0		19	0	
Middle Rio Grande Project	25	4,670	15,989						0.0	0.0		0	0	
San Angelo Project	472	95,147	503,700	4	14		81	179	42.0	27.8	53.0	851	355	14,733
Washita Basin Project	74	10,652	99,233	1	6		3	35	93.9	60.5	33.3	282	353	419
Wichita Project	18	2,672	4,076						0.0	--		0	--	
Totals and Averages	932	160,777	787,278	8	25		166	298	49.8	31.8	40.0	1,032	779	8,908
REGION 6														
Billings Regional Office	3	169	169						0.0	--		0	--	
East Bench Project Office	220	32,866	99,210	1	4		4	42	30.4	40.3	42.8	122	423	1,048
Missouri-Oahe Projects Office	363	42,437	115,266		2			6	17.3	103.2		52	1,419	
Missouri-Souris Projects Office	61	3,877	22,736		2			150	88.0	25.0		6,597	886	
Riverton Project	27	3,602	11,312						0.0	0.0		0	0	
Upper Missouri Projects	8	624	736						0.0	0.0		0	0	
Yellowtail Projects	409	70,939	312,965	4	5		235	259	56.4	16.0	0.0	3,313	828	0
Totals and Averages	1,091	154,514	562,394	5	13		239	457	32.4	23.1	38.1	1,547	813	838
REGION 7														
Kansas River Projects	317	60,858	188,740	1	2		231	241	16.4	10.6	11.1	3,796	1,277	33,489
Nebraska-Lower Platte Projects	515	108,167	251,216	1	2		3	12	9.2	8.0	16.5	28	48	1,056
North Platte River Projects	18	2,425	9,369						0.0	61.9		0	1,176	
South Platte River Projects	10	922	3,877						0.0	0.0		0	0	
Totals and Averages	860	172,376	423,202	2	4		234	253	11.6	8.8	17.7	1,357	558	15,767
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1951)	7,701	1,306,686	5,397,929	26	125	1	6,985	9,540	19.9	23.2	25.6	5,346	1,767	3,871
	7,438		15,215,753		367	12		90,162		24.1			5,926	

*FATALITIES INCLUDED IN TOTAL DISABLING

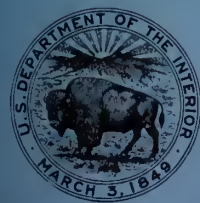




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SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

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June 1962

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Front Cover Photo: Foss Aqueduct, Washita Basin Project, Oklahoma. Hinged and locked grating installed on ladder cages on surge tanks provides protection against entry by unauthorized persons. Reclamation photo P854-522-1324.

SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES

January 1, 1962 - June 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Alaska District	0.0	0	0.0	48.8
Region 7	1.5	17	0.3	5.8
Region 2	5.4	124	6.7	4.0
Region 6	6.1	281	17.1	3.5
Region 4	6.3	1,464	92.2	3.1
Region 5	9.4	136	12.8	2.7
Region 3	9.6	126	12.1	5.8
Region 1	10.4	439	45.7	0.8
Totals to Date 1962	5.8	775	44.9	3.7
Totals Last Year	7.6	427	32.5	4.6

*Injury index is equal to frequency rate times severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES

January 1, 1962 - June 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	4.2	13	0
Region 7	11.5	442	0
Region 3	18.8	490	0
Region 4	19.4	4,248	2
Region 6	24.8	708	0
Region 5	29.6	418	0
Region 2	42.1	724	0
Totals to Date 1962	23.0	2,370	2
Totals Last Year	24.1	5,926	12

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
June 30, 1962

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost	Type	Description	No.	Days lost
3	Water Craft	1	135	14	Falls of Persons	18	7,278
5	Vehicles	2	3	16	Striking Against	2	14
9	Electricity	1	45	17	Flying Particles	1	2
10	Flash Burns	1	4	18	Hand Tools	5	63
11	Dust-Chemicals	3	12	19	Machinery	1	5
12	Handling Material	14	259	20	Not otherwise		
13	Falling Objects	6	725		classified	10	95
					Totals	65	8,640

B. OPERATIONAL SUMMARY

Operation	Man-Hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	2,551,565	4	746	1.6	292
Construction	2,762,433	14	6,474	5.1	2,344
Design	1,170,321	1	28	0.9	24
Investigation	1,475,624	10	869	6.8	589
O&M-Irrigation	1,433,365	21	219	14.6	153
O&M-Power	1,755,672	15	304	8.5	173
Totals	11,148,980	65	8,640	5.8	775

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3- 3-62	Construction Inspector	Fell from pole while raising safety strap	180
4- 9-62	Electrician	Fell while climbing bushing on oil circuit breaker	96
5-14-62	Surveying Aidé	Fell from bridge pier into river and drowned	6,000
5- 9-62	Drill Helper	Drill drive hammer struck hand	600
6-14-62	Engineer	Contacted powerline with drill pipe	45
6-19-62	Engineer	Caught hand in air propeller (boat)	135

ACCIDENT REVIEW

DRILLING

Employer: Government

Activity: Drilling holes in vicinity of powerline.

Accident Situation and Occurrence: A drill rig was being used to drill holes for resistance rods. The staked holes had originally been located directly under a 7.2-kilovolt powerline. The drill rig was moved about 6 feet away from the lines to give clearance. The employee was lifting a 1/2-inch by 21-foot pipe (resistance rod) vertically from one drill hole to another. It is believed that the wind caused the pipe he was carrying to come in contact with the adjacent powerline. He received electrical shock and burns to his hand, back, and leg. Crew members administered artificial respiration and treatment for shock to the injured employee before he was transported to the hospital. Time lost was estimated at 45 days.

Cause Determination: The drill holes were relocated, but the distance was not enough for safe and proper clearance from the powerline. When the employee lifted the 21-foot-long pipe in a vertical position, he failed to consider the potential danger from the adjacent powerline. Drilling operations should never be performed immediately beneath an energized powerline. Where drilling is performed in the vicinity of powerlines, all necessary safety precautions must be taken with strict supervision maintained at the jobsite.

COLLISION

Employer: Contractor

Activity: Hauling fill material to dam embankment.

Accident Situation and Occurrence: A DW-20 scraper was returning empty along a haul road from the embankment area. A truck loaded with fill material was approaching along the same haul road to the embankment section. The haul road was only wide enough for one vehicle and the procedure had been for the empty vehicles to pull off onto the fill allowing the loaded equipment to have the right-of-way. The vehicles had proceeded until they were only 155 feet from each other. The DW-20 scraper then pulled out onto the fill. The truck also turned out into this area at the same time. The loaded truck struck the empty scraper which overturned and pinned the operator beneath his machine. The scraper operator received fatal injuries.

Cause Determination: The immediate cause was the failure of the DW-20 scraper to pull out of the way until the very last moment. The truck driver thought that the scraper was not going to give him the right-of-way and this resulted in both of the machines turning off at the same time into the same area. Traffic patterns should be established that will eliminate two-way traffic on a single lane haul road.

LIFTING

Employer: Contractor

Activity: Lifting end of steel beam.

Accident Situation and Occurrence: Employee was lifting one end of a 20-foot by 8-inch I-beam in order that a block could be placed beneath it. Employee sustained severe back strain with estimated lost time of 30 days. Obviously for this heavy object, the workman should have secured additional help or used a mechanical device to lift the beam.

WATERCRAFT

Employer: Government

Activity: Starting motor by use of propeller.

Accident Situation and Occurrence: The accident occurred while collecting water samples in an aircraft engine-driven (air-propelled) boat. The engine ran out of gasoline and, after being refueled, the employee cranked it by use of the propeller, as the starter battery was too weak. After starting the engine, the employee was climbing around the screen in front of the propeller and brought his hand in contact with the propeller. Received crushing and lacerating injuries to hand. Time charge of 135 days for loss of tips of middle and ring fingers. Inadequate starting equipment was the primary cause of this accident and the engine should never be started by use of the propeller. Equipment should be checked prior to each use. Battery with higher voltage has been installed.

CHEMICALS

Employer: Government

Activity: Placing chemicals in canal.

Accident Situation and Occurrence: Employee was dumping copper sulphate crystals from a paper sack into a canal stilling basin. The wind caused some chemical dust to be blown into his eyes. Time lost was 1 day. Safety goggles should be worn for eye protection in this type of operation.

WATER SAFETY

Council Organized - McCook, Nebraska: On June 7, 1962, a McCook Community Water Safety Council was organized consisting of 22 persons. The first meeting of this council was held the evening of June 28 in the City Council Chambers at the McCook Auditorium. Mr. Allen Strunk, editor and publisher of the McCook Daily Gazette, was unanimously elected as chairman of the Council for an indefinite term. Mr. Strunk appointed a Steering Committee of 10 men to further organize the council and to establish policy and procedures. Since this Council was organized, there has been considerable newspaper coverage on "Water Safety" practices in impounded and running water. Also, there has been excellent coverage on the subject of "Water Safety" by the local KBRL radio station.

Proposed Council - Ellis, Kansas: By request, Project Safety Engineer R. C. Meager presented on June 19 to thirty members of the Ellis Rotary Club, a comprehensive "Water Safety" community program for the city of Ellis, Kansas. The preliminary groundwork has been accomplished. Followup action will be required to actually organize this prospective water safety council. This will be done in the very near future.

Hungry Horse Project: Two films were shown this month, both on water safety. In May, Bureau and Forest Service personnel met to discuss a water safety program for the reservoir area. The Forest Service will post signs at campgrounds regarding boating safety. "No Trespassing" signs are being placed along the river road. A sign warning of sudden river fluctuation was posted in this area some time ago.

Niobrara-Lower Platte Projects: The Projects Safety Officer presented the Bureau's interest in water safety on June 8, to representatives of the Red Cross, Sheriff's Office, County Extension Agent, and civic leaders, St. Paul, Nebraska. The organizing of a Water Safety Committee to serve the people of Howard and Sherman Counties was discussed. The importance of an organization to promote public water safety was outlined. Mr. Lavern Jacobsen, representing Press Gun Club, St. Paul, was elected temporary chairman. He expressed confidence in the people of Howard and Sherman Counties to organize an effective Water Safety Committee. The group was assured that the Projects Safety Officer will assist and serve as an advisor in promoting this program.

Weber Basin Project: Safety Officer Harold Dean attended a meeting of the Ogden Kingfish Scuba Divers Club giving them a brief talk and showing the movies, "Teaching Johnny to Swim" and "Lakes Made for You." Mr. Dean also offered to help the Scuba Divers Club with a

first-aid course for the members. Mr. Glendon Peysar inspected the Weber County Sheriff's Boat Patrol at Pineview Reservoir with the following report: "Saturday, June 16, 1962, by previous arrangement, Chet Lane, Chief Weber County Sheriff's Boat Patrol, picked me up from the new boat ramp. The craft was a 20-foot cabin cruiser with outboard motors, complete with two-way radio, red lights, siren and foul weather cover. While this particular boat belongs to the Boat Patrol as a group, the other boats are donated by the members for patrolling the reservoir.

"As we cruised, I learned that the 14 members of the boat patrol are sworn deputy sheriffs volunteering their time, service and equipment. They are all trained in first aid, skindiving, and water safety. While some of their equipment is donated, most of it is furnished by the patrol members. The approximate value of this equipment is \$70,000. It includes radios, boats, skindiving equipment, a floating first-aid station, a resuscitator-inhalator and warning devices.

"Of interest is the fact that the members are charged with the responsibility of enforcing safety rules on the water and disregard of this responsibility is cause for removal from the patrol.

"I was impressed very much by this system of safety and law enforcement. The Weber County Sheriff's Boat Patrol generally takes care of Pineview Reservoir; the Utah State Boating Commission occasionally sends a representative to the area."

Region 2: The Region's Water Safety Program moved forward during the month. At Sacramento, in a June 14th meeting with community organizations and under sponsorship of the Red Cross, Bureau, and Sacramento Safety Council, a temporary chairman was chosen to move forward with future plans and appointments. At Lake Berryessa, the Park Superintendent and concessionaires were visited for exploration of the water safety in that area. At Trinity Reservoir, the Bureau is coordinating water safety efforts with the U.S. Forest Service and the County Sheriff's Office.

Region 6: Mr. Hayes reported that at a water safety meeting at Rapid City on May 31, the Red Cross representative was very much interested in the Water Safety Program. All 20 attending the meeting were in favor of establishing a Water Safety Council for the Western South Dakota area. A temporary committee consisting of a member from each organization represented was established and a meeting date scheduled for June 11 at Custer. It was agreed that publicity and education of the public was needed to promote water safety.

FROM THE FIELD

Boulder Canyon Project: Inclusion of first-aid instruction in "Closed Chest Cardiac Massage" is being considered for project employees. A meeting has been scheduled with Thomas S. White, a local physician, who will demonstrate the method and give instructions in applying closed chest cardiac massage. The Interior booklet "Motor Vehicle Regulations" was recommended as being an excellent source of subject material for weekly safety meetings..

Distribution System Projects Office: It was announced that safety belts have been installed in all vehicles except for survey wagons, and that they would be equipped as soon as the necessary special anchor bolts are procured.

Norman Project: The safety phase of the preconstruction meeting was discussed. The committee agreed that the safety requirements of the specifications should be brought to the attention of the contractor. Requirements for safety are to be obtained in the same manner as any other contract provision.

South Platte River Projects: H. J. Fisher, Superintendent of Lines and Substations gave a blackboard talk on clearance procedures and sequence to be used for isolating circuit breakers. He also reviewed "Hot Line Hold Order" procedure. Conducted general shakedown inspection of line patrol vehicles and tools. One lineman's safety strap was condemned; new hammer handle needed in another case. Spur length and condition of climbers were visually and template checked.

Red Bluff Construction Office: In the safety meeting there was a discussion on Reclamation Instructions, Safety, Part 365.1.18 on the wearing of hard hats. The Construction Engineer asked all supervisory personnel to enforce the above regulation. Hard hats are to be worn by all employees within construction areas.

Yellowtail Project Office: All student trainees and other new employees hired by the Bureau are given a safety orientation by the project safety engineer.

Colorado River FW&LS Office: It was pointed out that the weekly "On-the-Job" safety meetings have improved and deal mostly with minor, but very important subjects on safety. The actions for correction and adoption of subjects recommended, are taken by the employees rather than submitting them to the safety committee or management. This, we feel, is an indication of their sincerity in carrying out their obligations to the project safety program. Only major items are sent to the safety committee for consideration and evaluation.

Niobrara-Lower Platte Projects: The second of the regularly scheduled monthly safety meetings with Bushman Construction Company was held June 13. The attitude of contractor's representatives toward these meetings has been excellent. The cooperation extended Bureau field personnel in promoting safety activities among their employees is gratifying.

North Platte River Projects: Eleven Bureau temporary employees assigned to the Soil and Moisture Branch, Field Office, Torrington, were given a driver road test and a written quiz before they were issued a Government Motor Vehicle Operator's permit. The film "Signal 30" was shown at the Torrington Field Office by Patrolman Heiduck of the Wyoming Highway Patrol to 27 Government employees from the Bureau and the Department of Agriculture in a joint safety meeting.

Klamath Project: Attention was called to a new manual release (Region 2 supplement) regarding seat safety belts. Stressed particularly was the statement that "Failure to wear seat belts shall be considered a violation of safety regulations. Therefore, drivers and employee passengers will be subject to disciplinary action for failure to utilize seat belts." Discussion followed on how best to present this requirement to the employees, and it was decided to issue a memorandum for handing out with the pay checks.

Canadian River Project: A special safety policy meeting was held June 21, 1962, between the H. B. Zachry Company Project Manager, and Canadian River Project Construction Engineer. At this meeting problem areas were defined and Bureau safety policies were reviewed. Suggestions were made which would generally enhance the contractor's safety program. As a result of this meeting, Mr. John H. Strange, Contractor Project Manager, organized a "Central Safety Committee" composed of 10 key construction personnel. This committee will guide and direct the safety efforts of the H. B. Zachry Company during the construction of Sanford Dam. The Dam Division conducted its safety meeting for Bureau employees on June 21. Mr. Kensley addressed the group and outlined the responsibility of the Bureau personnel in guiding the contractor's methods of safety operation. Inspectors are to note unsafe procedures and practices in their daily reports. It was pointed out that certain conditions could warrant a special safety report and forms were provided for this purpose.

* * * * *

RED CROSS SERVICE AWARD - CHARLES H. SAUNDERS

The Service Metal Award was presented to Charles H. Saunders, Casper, Wyoming, by the American National Red Cross at the request of Natrona County Chapter. The award is given for 500 hours' volunteer service in the safety field during 5 successive years. To be eligible, the recipient must hold a certificate of appreciation awarded for 300 hours' safety service in a 3-year period, to be following by 200 hours' continuous service the following 2 years.

Mr. Saunders is Chief, Safety Branch, for the Bureau's North Platte River Projects, Casper, Wyoming, having served in this capacity since November 1950. He has given outstanding service to the community by his work in safety for the Red Cross. Through his efforts, the Chapter first-aid instructors were organized and have continued to function. He has served the Red Cross since 1956, as instructor, committee member, committee chairman, and board member.



VEHICLE SEAT BELTS

A program was recently sponsored by the Denver Reclamation Employees' Association to encourage Bureau personnel to install seat belts in their private cars. A 16-mm color movie entitled, "Broken Glass" was shown to emphasize the importance of seat belts. A display (above photo) of safety belt equipment and literature was placed in the main lobby of Building 53, Denver Federal Center. Both belt and installation costs were offered at reduced rates by a local manufacturer.

Cornell University research studies show the following facts relative to the value of car seat belts:

1. You are 60 percent less likely to suffer an injury of any sort if you are wearing a seat belt.
2. You are 50 percent less likely to be killed if you are wearing a seat belt.
3. Two-thirds of the drivers involved in fatal accidents had them less than 25 miles from home.

4. One-half of the injury-producing accidents in cities occur at impact speed of less than 27 miles per hour.

Quotes on Seat Belts

All cars competing in New Zealand's Gas Economy Run this year were fitted with safety belts. Belts were fitted to the driver and front passenger seats. All official cars accompanying the run were also equipped with belts. The action was not taken because of high accident rate but for the purpose of promoting seat belt use. In 7 years some 200 cars have been driven 150,000 miles in the run with one minor accident.

All stations of a national rent-a-car system now have front-seat safety belts available for current model equipment upon request by customers. The company expects that requests will reach the 50-percent mark within the next 2 car-model years. As demand approaches this point, the company plans to install permanent belts in every vehicle.

They are making it harder and harder to ignore that seat belt. A car manufacturer is now developing a warning light for the instrument panel that will flash red when the driver fails to fasten his seat belt.

(Above quotes from NSC - Traffic Safety - July 1962)

* * * * *

SAFETY AWARD - REGION 7 OFFICE

Employees of Region 7 Headquarters Office, Denver, have recently received the Department of the Interior Certificate of Safety Achievement Award. The safety award was in recognition of having successfully worked a total of 502,168 man-hours without a disabling work injury in the performance of their regular duties during the period August 8, 1959, to February 28, 1961.

* * * * *

VALUE OF FIRST-AID TRAINING PROVEN

While working with one of the Transmission System Office field parties, a member of a drill crew from the Grand Junction Office received electrical burns and shock when a ground rod he was installing came in contact with a high-voltage powerline. The only bright aspect of this accident was the manner in which the employees immediately and efficiently went into action to provide first aid

to the injured employee. Breathing was restored by artificial respiration and shock treatment administered. The patient was transported to a hospital in an orderly safe manner.

The entire handling of the above accident demonstrated the value of the first-aid training courses provided the field men this past winter. One of the doctors treating the patient stated that he undoubtedly owes his life to the efficient first aid administered in the field.

* * * * *

PUBLIC DROWNINGS

January 1 - June 30, 1962

1. Facilities Controlled and Operated by Bureau of Reclamation:

Canals	- 12
Reservoirs	- 3
Total	<u>15</u>

2. Facilities Operated by Other Agencies:

Irrigation and Water Districts	- 5
State or County Agencies	-
(Recreational)	- 18
Federal Agency	- 1
Total	<u>24</u>

3. Summary of Total Drownings During Period:

A. By Operating Agency:

Bureau of Reclamation	- 15
Irrigation and Water Districts	- 5
State or County Agencies	- 18
Federal Agency	- 1
Total Drownings	- <u>39</u>

B. By Type of Facility:

Canals	- 17
Reservoirs	- 22
Total Drownings	- <u>39</u>

4. Nature of Drownings:

Swimming	- 16
Boating	- 6
Fishing	- 2
Fell into canal	- 6
Other	- 9
Total	- <u>39</u>

5. Same Period Last Year - Drownings - 45.

* * * * *

DRUGS AND DRIVING

High on the list of highway killers and traffic safety violators is the drunken driver. But alcohol is no longer the only cause of "intoxication."

The Food and Drug Administration is concerned over the increasing threat to highway safety from drivers "under the influence" of drugs. The drugs involved range from true narcotics to stimulants, tranquilizers, sleeping pills, and even some cold remedies. Some are widely used in such common ailments as nervousness, overweight, high blood pressure and hay fever. Because of these common uses, many people do not realize the effects drugs may have on driving ability. They may innocently contribute to the danger on the streets and highways.

And, because some dangerous drugs can be obtained without prescription - despite legal requirements to the contrary, - some people use them for their "side effects" or for reasons other than their intended medical purpose. One example is the use of stimulant drugs to keep awake while driving.

Controlled use of drugs by a person under his doctor's care brings with it safeguards that avoid danger. Uncontrolled use of the drugs discussed here is a danger to the health and welfare of the user and the safety of others. Here are the facts about the dangers and precautions to be taken when driving.

Amphetamines

Amphetamine drugs have many nicknames, some innocent sounding - "bennies," "pep pills," "thrill pills," "co-pilots" - which conceal the seriousness of uncontrolled use.

The amphetamines are useful in treating certain illnesses when used under medical supervision. Carelessly used, they can be very harmful to the health of the user and make it unsafe to operate a motor vehicle.

Common beliefs about amphetamines are: "They are no more harmful than a cup of coffee;" and "you can drive without sleep and never miss it." Both are false and both are dangerous.

Amphetamines may increase alertness and efficiency for a short time; but this effect may be followed by headache, dizziness, agitation, irritability, decreased ability to concentrate, and marked fatigue.

The most important fact for drivers to consider is that excessive, unsupervised use interferes with the body's normal protective symptoms of drowsiness and fatigue. The feeling of exhaustion is short circuited, causing a driver to use up reserves of body energy until a total and sudden collapse may occur.

Rest is the only safe remedy for fatigue. Reliance on stimulant drugs can result in anything from a badly overworked heart to sudden death.

Barbiturates

Barbiturates are very useful medicines to calm nervousness and produce sleep in persons with medical problems. However, they are habit forming and by law may be sold only upon prescription. The excessive use of barbiturates produces symptoms similar in some respects to alcoholic intoxication. The person affected becomes drowsy and confused. He cannot coordinate his muscular action when he walks or stands and sometimes reaches the point of collapse. He may experience tremor of his hands, lips, and tongue, and he has difficulty in thinking or talking clearly. A person so affected is obviously unfit to drive. Follow your doctor's advice in the use of this potent drug.

Tranquilizers

This descriptive term is applied to a group of preparations that are generally speaking, muscle relaxants affecting some reflexes to relieve mental apprehension.

However, in normal or larger doses, or with other drugs or alcohol, tranquilizers may result in sedation to the point of dizziness or drowsiness. Obviously, these preparations may also pose a danger to the driver and should be taken only under adequate medical supervision, with the doctor knowing that driving is contemplated.

Antihistamines

These drugs are used for relief of nasal congestion due to colds, to combat allergies and for other purposes. Some may be purchased without prescription; others are too dangerous for use without medical supervision.

These drugs may also cause side effects such as inattention, confusion, and drowsiness. In fact, some are available for use as an aid to sleep. If the drugs produce such results in a particular individual, then he should not drive. Observe label directions carefully, and follow your doctor's advice about driving.

Narcotics

Since the true narcotics are used primarily by doctors in seriously ill, usually hospitalized patients, these patients are not likely to be driving at all. In the unusual situation, where narcotic medication is indicated and the doctor permits driving, he will undoubtedly advise necessary precautions.

Drugs plus Alcohol

Everyone knows the dangers of driving while under the influence of alcohol. Not so many know how the drugs discussed above threaten driving safety. But still fewer know that the combined effects of these drugs and alcohol may be exceedingly dangerous.

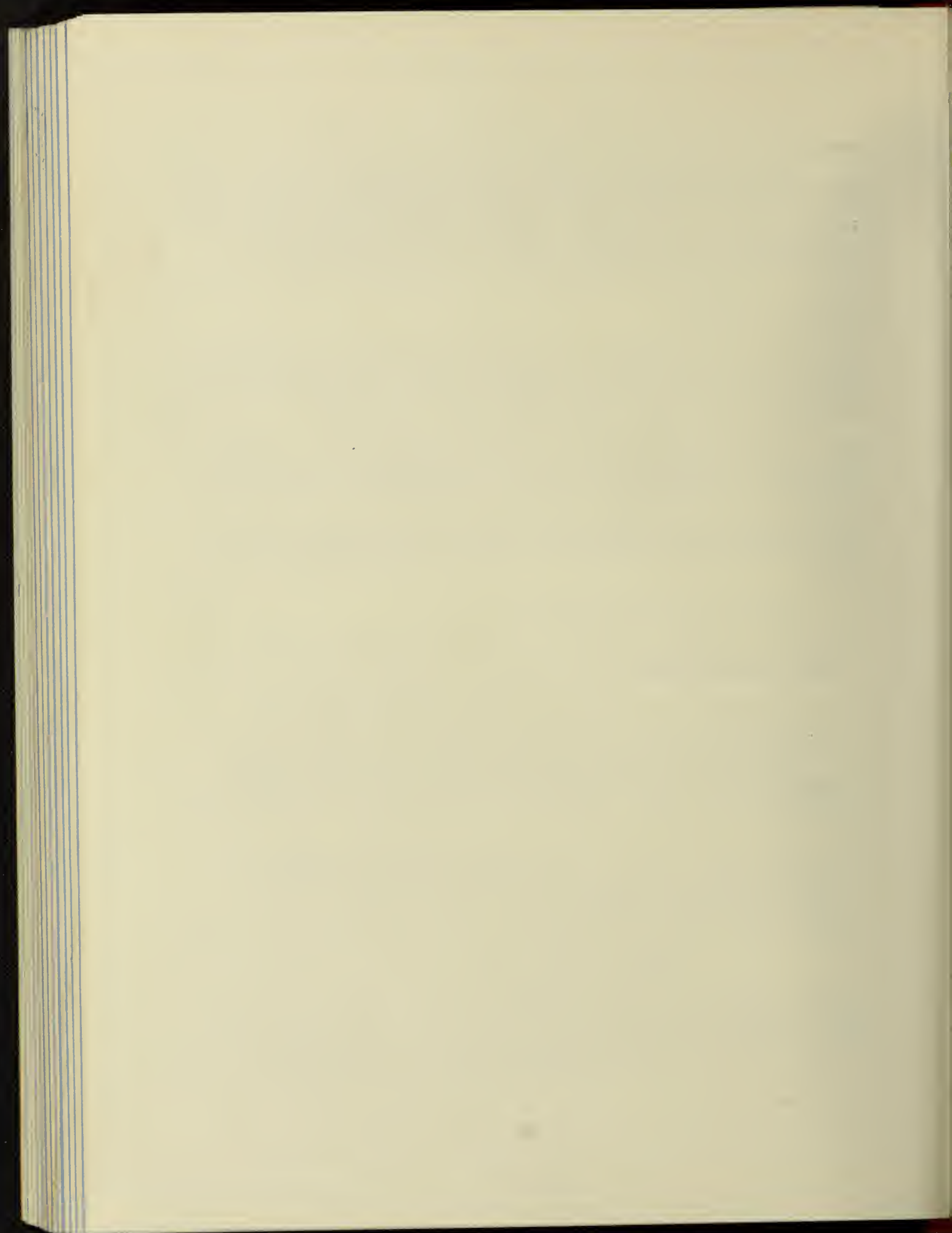
The combined results may be much more dangerous to health and highway safety than the effects of either the alcohol or the drugs alone. The scientific term for the reaction effect is "synergism."

The old adage, "If you drink, don't drive" is still good. But here are some additional rules that may save your life or the other fellow's:

1. If you are ill, see your doctor.
2. If your doctor prescribes drugs, ask him about driving while on medication.
3. If you drink, don't drive; but ask your doctor about the combined effects of alcohol and any medicine he prescribes.
4. Don't ask your druggist to violate the law by selling dangerous drugs without a prescription and don't buy from one who will.
5. Don't allow filling station or truck-stop operators to sell you any drugs. These operators may be good mechanics for your automobile or truck, but your body is a much more valuable and delicate machine.

(Abstracted from Food and Drug Administration
Publication No. 15)

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH JUNE 30, 1962

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	234	39,312	239,256						0.0	0.0		0	0	
Denver Office & Laboratories	1,422	238,896	1,431,856	1				28	0.7	1.2		20	4,446	
Alaska District	36	4,897	30,316						0.0	0.0		0	0	
REGION 1														
Boise Regional Office	166	23,863	145,426						0.0	11.9		0	20	
Central Snake Projects	21	7,936	44,296	1				1	22.4	45.1		22	631	
Chief Joseph Dam Project	41	6,422	31,165						0.0	0.0		0	0	
Coeur d'Alene Project	7	1,080	3,768						0.0	—		0	—	
Columbia Basin Project	875	147,000	884,824	1	9		8	37	10.2	14.8		54	42	98
Crooked River Project	0	0	3,153						0.0	0.0		0	0	
Hungry Horse Project	27	9,878	55,285	1				20	18.1	0.0		362	0	
Lower Columbia Development Office	39	6,534	36,534						0.0	0.0		0	0	
Minidoka Project	152	24,988	146,524	1	3		4	11	40.0	6.3		160	75	13
Rogue Project	—	—	28,820						0.0	0.0		0	0	
S Snake River Development Office	47	9,036	42,577	1				600	23.5	0.0		14,322	0	
The Dalles Project Office	30	5,088	32,006						0.0	—		5	—	
Upper Columbia Development Office	41	5,709	34,111						0.0	0.0		0	0	
Vale Project	21	3,646	12,197						0.0	0.0		0	0	
Yakima Project	29	4,394	26,180					3	38.2	26.9		115	1,504	
Totals & Averages	1,556	255,774	1,530,265	2	16		12	672	7.8	10.4	12.7	47	439	113
REGION 2														
Sacramento Regional Office	635	106,680	603,784	1	4		5	14	9.4	6.6	3.8	47	23	8
Folsom Field Division	67	11,438	70,485						0.0	0.0		0	0	
Fresno Field Division	124	25,872	154,848	1	2		1	28	38.7	12.2	12.0	39	181	2,153
Shasta Field Division	124	20,978	119,319	1				96	8.4	7.7		805	231	
Grant Field Division	182	30,843	186,210	3				92	16.1	0.0		494	0	
Distribution System Projects CVP	30	3,475	34,674						0.0	0.0		0	0	
El Dorado Project CVP	49	8,232	46,728						0.0	19.0		0	27	
Red Bluff Office CVP	103	17,304	68,114						0.0	—		0	—	
San Luis Unit CVP	227	38,136	182,270						0.0	36.5		0	73	
Trinity River Division CVP	308	49,280	295,514						0.0	12.6		0	184	
Klamath Project	42	7,256	44,492						0.0	20.1		0	262	
Kabonatan Basin Project	59	9,512	55,544						0.0	0.0		0	0	
Totals & Averages	1,980	329,456	1,861,612	2	10		6	230	6.1	5.4	7.5	18	124	275
REGION 3														
Boulder Regional Office	132	22,176	129,176						0.0	0.0		0	0	
Boulder Canyon Project	163	27,384	164,200					89	18.2	41.9		542	767	
Colorado River FWLS	82	14,746	71,139	2			7		28.1	14.4		98	562	
Parker Davis Project	246	47,614	280,038	1			4		7.6	17.7		14	297	
Phoenix Development Office	59	8,198	54,619				1		18.3	—		18	—	
Yuma Projects Office	122	20,187	135,186	1	1		4	4	49.5	50.8		198	30	312
Totals & Averages	845	140,305	834,348	1	8		4	105	7.1	9.6	24.5	28	126	360
REGION 4														
Salt Lake Regional Office	331	74,963	335,747						0.0	0.0		0	0	
Emery County Project	23	3,786	12,484						0.0	—		0	—	
Central Utah Projects Office	165	26,846	159,114	1	3		135	231	18.9	23.1	5,229	1,464	87	
Duracanti Unit CRSP	72	12,814	69,989	1		1		6,000	14.3	61.0		82,728	61	
Flaming Gorge Unit CRSP	158	24,653	130,360						0.0	0.0		0	0	
Glen Canyon Unit CRSP	350	60,480	339,272	3				782	8.8	6.2		2,305	108	
Navajo Unit CRSP	55	11,167	65,980						0.0	0.0		0	0	
Transmission System Office CRSP	85	14,280	90,984						0.0	0.0		0	0	
Durango Projects Office	93	15,200	93,244					8	10.7	0.0		85	0	
Grand Junction Office	134	20,872	126,000	1	2		45	79	47.9	14.7		2,156	381	
Logan Development Office	13	2,144	13,642						0.0	0.0		0	0	
Seedsadee Project	101	30,491	85,006	1	1		45	45	32.8	11.8	0.0	1,475	529	0
Upper Green River Office	30	7,277	29,427						0.0	0.0		0	0	
Weber Basin Project	204	34,272	177,364						0.0	6.5		0	390	
Totals & Averages	1,814	239,545	1,738,813	3	11	1	225	7,147	8.8	6.2	4.7	663	4,110	73
REGION 5														
Amarillo Regional Office	105	16,803	107,945						0.0	10.3		0	196	
Albuquerque Development Office	27	3,696	16,893						0.0	0.0		0	0	
Austin Development Office	77	10,370	68,306						0.0	0.0		0	0	
Canadian River Project	118	18,544	102,133						0.0	—		0	—	
Lower Rio Grande Rehab. Project	60	10,128	65,300						0.0	14.5		0	58	
Middle Rio Grande Project	238	36,738	278,825	1	4		5	36	27.2	14.3	24.5	136	129	261
Norman Project Office	55	9,011	37,223						0.0	—		0	—	
Oklahoma City Development Office	27	2,632	28,807						0.0	0.0		0	0	
Rio Grande Project	291	51,864	298,354					24	13.4	26.6		80	503	
San Angelo Project	84	15,031	94,801	2				99	21.1	8.7		1,044	26	
Washita Basin Project	31	4,619	42,070						0.0	0.0		0	0	
Wichita Project	51	6,596	35,497	1			1		28.2	—		28	—	
Totals & Averages	1,164	187,032	1,176,154	1	11		5	160	5.3	9.4	18.4	27	136	256
REGION 6														
Billings Regional Office	221	38,464	216,888						0.0	0.0		0	0	
Canyon Ferry Project	20	3,126	18,649						0.0	0.0		0	0	
East Bench Project Office	75	11,225	70,301						0.0	0.0		0	0	
Fort Peck Project	37	4,704	31,883						0.0	56.0		0	840	
Missouri-Oahe Projects Office	280	44,800	252,066					242	7.9	5.3		960	53	
Missouri-Souris Projects Office	140	21,620	129,672	1				6	7.7	7.7		46	46	
Power System Operations Office	38	6,080	38,960						0.0	0.0		0	0	
Sturtevant Project	32	5,013	28,783						0.0	0.0		0	0	
Upper Missouri Projects Office	115	17,624	98,423	1	3		6	28	56.7	23.7		340	285	296
Yellowtail Project Office	113	15,933	97,089						0.0	0.0		0	0	
Totals & Averages	1,021	168,589	982,714	1	6		6	276	5.9	6.1	7.0	36	281	83
REGION 7														
Denver Regional Office	163	27,384	161,424						0.0	0.0		0	0	
Denver Development Office	34	5,360	29,176						0.0	0.0		0	0	
Kansas River Projects	351	58,968	371,652					8	3.0	9.0		24	207	
Nebraska-Lower Platte Projects	345	55,200	321,600	1					0.0	11.9		0	40	
North Platte River Projects	291	46,560	299,280						0.0	3.2		0	3	
South Platte River Projects	180	29,808	174,514					14	5.7	5.8		80	12	
Totals & Averages	1,364	223,480	1,323,646					22	1.5	6.5		17	66	
CONSOLIDATED TOTALS	11,506	1,927,286	11,148,980	10	65	1	258	8,640	5.2	5.8	9.3	134	775	726
TOTALS LAST YEAR (1961)	10,472		21,258,640	162	1			9,076	7.6			427		

* FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

**SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY**

FORCES: _____ CONTRACTOR _____
(Government - Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH June 30, 1962

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	62	9,163	43,391						0.0	0.0		0	0	
Columbia Basin Project	176	17,429	129,585	1				3	7.7	47.2		23	53	
Crooked River Project	0	0	240						0.0	0.0		0	0	
Hungry Horse Project	10	607	1,227						0.0	0.0		0	0	
Minidoka Project	0	0	6,003						0.0	0.0		0	0	
Rogue Project	-	-	31,451						0.0	11.3		0	57	
Vale Project	73	11,716	12,726						0.0	-		0	-	
Yakima Project	10	825	9,092						0.0	0.0		0	0	
Totals & Averages	331	39,740	236,767	1				3	4.2	5.9		13	35	
REGION 2														
Sacramento Regional Office	0	0	1,035						0.0	510.5		0	5,105	
Distribution System Projects Office	34	2,138	89,288	4				99	44.8	66.8		1,109	2,377	
El Dorado Project Office CVP	26	6,064	53,498	4				55	74.8	119.4		1,028	955	
Red Bluff Office, CVP	85	14,280	42,373						0.0	-		0	-	
San Luis Unit, CVP	0	0	2,166						0.0	-		0	-	
Trinity River Division, CVP	436	53,384	634,945	4	28		29	466	74.9	44.1	52.3	543	734	6,841
Klamath Project	32	3,500	24,043						0.0	0.0		0	0	
Lahontan Basin Project	60	7,025	8,192						0.0	102.6		0	889	
Tracy Field Division	7	464	464						-	-		-	-	
Totals & Averages	680	86,855	856,010	4	36		29	620	46.1	42.1	55.8	334	724	6,311
REGION 3														
Boulder Canyon Project	0	0	1,437						0.0	0.0		0	0	
Colorado River FWLS	37	3,821	4,631						0.0	0.0		0	0	
Phoenix Development Office	6	1,437	1,437						0.0	-		0	-	
Parker-Davis Project	9	861	861						0.0	-		0	-	
Yuma Projects Office	37	3,924	44,506	1				26	22.5	18.2		584	474	
Totals & Averages	89	10,043	53,061	1				26	18.8	18.8		490	414	
REGION 4														
Central Utah Projects Office	40	4,886	35,425	1	2		6	67	204.7	56.5	50.9	1,228	1,891	216
Curecanti Unit CRSP	336	41,658	98,412	1	1		6	6	24.0	10.2	-	144	61	-
Flaming Gorge Unit CRSP	917	159,076	678,434	1	6	1	58	6,153	6.3	8.8	6.5	365	9,069	544
Glen Canyon Unit CRSP	1,884	290,681	1,245,255	4	31		85	1,477	13.8	20.0	17.8	292	956	3,415
Navajo Unit CRSP	380	99,243	379,227	2	6		42	216	22.1	16.2	11.2	497	283	99
Emery County Project	7	175	585						0.0	-		0	-	
Florida Project	180	34,039	164,279	2	7		37	174	58.8	42.6	-	1,087	1,059	-
Grand Junction Office	190	33,102	153,525		3		34		19.5	31.9		221	140	
Seedskeadee Project Office	359	74,389	183,868	2	3		67	72	26.9	16.3	0.0	901	392	0
Weber Basin Projects	235	40,592	124,887	3	6	1	6,036	6,053	73.9	48.0	10.8	148,689	48,468	76
Totals & Averages	4,528	769,142	3,354,997	16	65	2	6,340	14,252	20.8	19.4	16.7	8,243	4,248	2,308
REGION 5														
Amarillo Regional Office	3	154	154						0.0	-		0	-	
Canadian River Project	184	38,141	98,178	2	5		9	91	52.4	50.9	-	236	927	-
Lower Rio Grande Rehab. Project	132	10,630	114,873		2			2	17.4	0.0		17	0	
Middle Rio Grande Project	19	3,501	19,493						0.0	0.0		0	0	
San Angelo Project	449	93,047	536,747	1	15		5	268	10.7	25.1	53.5	54	449	31,220
Washita Basin Project	40	3,780	103,013		6		35		58.3	29.2		340	368	
Wichita Project	79	10,052	14,128						0.0	-		0	-	
Totals & Averages	909	159,305	946,583	3	28		14	396	18.8	29.6	40.7	88	418	19,719
REGION 6														
Billings Regional Office	4	171	340						0.0	-		0	-	
East Bench Project Office	252	38,726	137,936	3	8		38	98	77.5	58.0	32.0	981	710	784
Missouri-Oahe Projects Office	350	77,976	153,242	1	3		1	7	26.3	19.6	90.8	26	46	1,681
Missouri-Souris Projects Office	111	16,356	39,092		2			150	51.2	26.2		1,837	690	
Riverton Project	23	3,555	14,867						0.0	0.0		0	0	
Upper Missouri Projects	8	794	1,233						0.0	0.0		0	0	
Yellowtail Project	406	65,274	378,533		5			259	13.2	0.0		684	0	
Totals & Averages	1,154	163,152	725,546	4	18		39	514	24.5	24.8	34.4	239	708	747
REGION 7														
Kansas River Projects	310	61,994	250,734		2			241	8.0	8.8		961	26,384	
Nicholls-Lower Platte Projects	508	93,331	344,547	2	4		5	17	21.4	11.6	15.2	54	49	921
North Platte River Projects	8	244	10,213	1	1		12	12	1,059.7	97.0	83.4	12,712	1,163	1,085
South Platte River Projects	11	1,396	5,273						0.0	0.0		0	0	
Totals & Averages	837	157,665	610,867	3	7		17	270	19.0	11.5	17.0	108	442	11,846
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	7,438	1,385,902	6,783,831	30	156	2	6,439	16,081	21.6	23.0	26.7	4,646	2,370	5,646

* FATALITIES INCLUDED IN TOTAL DISABLING





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SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
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Front Cover Photo: Wagon drill mounted on steel cage to drill anchor bar holes. Rope ladder and lifelines are used for access to cage, Flaming Gorge Unit. Reclamation photo P-591-421-4086.

SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - July 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Alaska District	0.0	0	0.0	40.0
Region 7	1.3	14	0.2	4.7
Region 2	5.0	107	5.3	3.7
Region 4	5.7	3,402	193.9	2.9
Region 6	6.9	241	16.6	3.0
Region 5	8.0	117	9.4	2.8
Region 1	8.9	375	33.4	0.7
Region 3	9.2	109	10.0	5.8

Totals to Date (1962)	5.3	659	34.9	3.3
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Totals Last Year	7.6	427	32.5	4.6
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*Injury index is equal to frequency rate times severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - July 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	4.0	12	0
Region 3	9.9	256	0
Region 7	11.6	392	0
Region 4	17.5	3,460	2
Region 6	25.8	532	0
Region 5	31.0	11,043	2
Region 2	51.4	934	0

Totals to Date (1962)	23.5	3,407	4
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Totals Last Year	24.1	5,926	12
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LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
July 31, 1962

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost	Type	Description	No.	Days lost
3	Water Craft	1	135	14	Falls of Persons	19	7,281
5	Vehicles	2	3	16	Striking Against	2	14
9	Electricity	1	45	17	Flying Particles	1	2
10	Flash Burns	1	4	18	Hand Tools	5	63
11	Dust-Chemicals	3	12	19	Machinery	1	5
12	Handling Material	18	276	20	Not otherwise		
13	Falling Objects	6	725		classified	10	95
					Totals	70	8,660

B. OPERATIONAL SUMMARY

Operation	Man-Hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	3,028,864	4	746	1.3	246
Construction	3,294,032	15	6,477	4.6	1,966
Design	1,373,579	1	28	0.7	20
Investigation	1,722,947	13	890	7.5	517
O&M Irrigation	1,662,770	22	215	13.2	129
O&M-Power	2,052,143	15	304	7.3	148
Totals	13,134,335	70	8,660	5.3	659

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3- 3-62	Construction Inspector	Fell from pole while raising safety strap	180
4- 9-62	Electrician	Fell while climbing bushing on oil circuit breaker	96
5- 9-62	Drill Helper	Drill drive hammer struck hand	600
5-14-62	Surveying Aide	Fell from bridge pier into river and drowned	6,000
6-14-62	Engineer	Contacted powerline with drill pipe	45
6-19-62	Engineer	Caught hand in air propeller (boat)	135

ACCIDENT REVIEW

LIFTING

Employer: Government

Activity: Lifting concrete cylinder mold.

Accident Situation and Occurrence: Employee was removing concrete cylinder mold while in a stooping position. In turning to set the cylinder mold down, he wrenched his back. Time lost was 10 days. This accident could have been prevented by using proper lifting procedures.

BULLDOZER

Employer: Contractor

Activity: Removing roots from earthfill.

Accident Situation and Occurrence: Bulldozers were being used to blade down windrows of fill material. An employee was standing with his back to an oncoming bulldozer, picking up roots from the fill. This was his regular job. He was struck by the advancing dozer blade and fatally injured.

Cause Determination: The employee should not have been working directly in the path of the bulldozer. Employees engaged in removal of roots from the fill should work behind the tractors dozing down the windrows and not in front of the equipment. Tractor operators must be more alert to personnel on foot that are working on the fill area.

TRENCHING MACHINE

Employer: Contractor

Activity: Operating trench machine.

Accident Situation and Occurrence: An employee was operating a trenching machine when the conveyor became overloaded. The operator was attempting to get the belt to run when his right foot slipped on the loose dirt and his left foot became wedged between the conveyor belt and the frame. The employee died after an operation for the removal of his foot.

Cause Determination: The employee was working on equipment while in gear; failure to check for secure footing; and the equipment was unguarded at the point where the employee's foot entered the machine. A guard has been placed on the equipment to prevent a recurrence of this type of accident.

TAIL TOWER

Employer: Contractor

Activity: Placing counterweights on tail tower of cableway system.

Accident Situation and Occurrence: Five-ton precast-concrete block counterweights were being placed on a traveling tail tower. Two employees were positioning the block that was being placed by a mobile crane. Suddenly the tail tower became overbalanced, the connecting bolts on the tail tower trucks broke, and the tail tower fell backwards against the slope. One employee jumped off the counterweight and attempted to grasp a steel brace. He missed his handhold and fell approximately 15 feet to the ground. He received head lacerations and the estimated lost time was 27 days.

Cause Determination: The cause of the accident was overbalancing the tower with counterweights during erection. This accident could have been prevented by cribbing up the rear counterbalance section of the tail tower before placing counterweights and securing the main high line cable to the tower before removing the cribbing.

TRANSMISSION LINE

Employer: Contractor

Activity: Clipping in wire on conductors.

Accident Situation and Occurrence: A lineman was clipping in wire on conductors and, when putting on armor rod and dampers, he wrenched his back. Time lost was estimated at 10 days. Apparently employee had his body in an improper position while attempting to do his work.

HAULING OPERATION

Employer: Contractor

Activity: Hauling fill material.

Accident Situation and Occurrence: One employee was operating a DW-21 scraper coming from the fill area after unloading. Another scraper was going toward the dam area with a load of dirt when the two scrapers sideswiped each other. One operator received a fractured jaw and lost time was estimated at 42 days.

Cause Determination: The accident occurred on a narrow two-way haul road. Both operators had only been employed for a few hours on the job. All new operators will now ride with experienced operators to become acquainted with the job routine before taking over equipment. Also one-way haul roads have been constructed for this work.

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WATER SAFETY

Lahontan Basin Projects Office: Regional Safety Engineer R. A. Breckenridge visited the project on July 16. Thirty-five employees were present at a showing of the film "You are the Lifeguard," which emphasized safe water practices and the dangers present at nonsupervised swimming areas. Mr. Breckenridge stated that most water accidents occurring at Bureau-built or operated reservoirs were the result of poor swimmers overestimating their ability and improper use of boats.

Hungry Horse Project: An inspection trip of the reservoir is to be made in the near future to see what progress is being made by the Forest Service in carrying out a water safety program. Articles on safe boating have appeared in local newspapers and will be included in the project's report to the region on local interest in water safety.

Tracy Field Division: The Water Safety Program continued with constant effort to prevent any further injuries and fatalities in the canals.

Weber Basin Project: The possibility of an O&M employee falling and being injured or drowned while cleaning trashracks at the Gateway Canal was discussed. After an inspection of the structure by the safety office, it was recommended that a safety belt be worn attached to a lifeline and cable. The recommendation is now in use.

Sherman-Howard County Water Safety Council: The Sherman-Howard County Water Safety Council was initiated at a meeting held on July 10, at the courthouse in St. Paul, Nebraska. Chairman LaVerne Jacobsen of St. Paul discussed the purpose of the organization. He emphasized the great need for water safety in the Farwell Irrigation District Project reservoir and canals. Bureau personnel in attendance stressed the fact that this is an all-inclusive program, not intended merely for Bureau-operated facilities. The Council appointed a water safety committee and a public education committee. Their primary purpose at this time is the promotion of swimming lessons for children and adults in Sherman and Howard Counties.

Region 6: A water safety meeting was held at Rapid City on June 25. A chairman, vice chairman, and secretary were selected for the council. Members were named for the publicity committee. The chairman was to appoint the publicity committee chairman with the hope that this committee could promote greater interest in the program. Mr. Ashley Roberts, Montana State Fish and Game Commission, had a meeting with the Canyon Ferry Recreation Association on June 19, and reported favorable response to the water safety movement. The American Red Cross is to conduct water safety demonstrations at Canyon Ferry Reservoir in July. It has been

decided at the last safety meeting to recommend changes in the specifications on the East Bench Canal to use welded fabric safety nets instead of the manila rope.

McCook Community Water Safety Council: The Steering Committee of the Council held their meeting as scheduled on July 9, 7:30 to 9:45 p.m. The committee recommends the following organizational policy be initiated:

1. The Council henceforth be known as "The Water Safety Council of the Great Lakes of Nebraska," with headquarters at McCook, Nebraska.
2. The Chairman of the Council to serve for a full 2-year term (1962-1963). The Chairman will be nominated and elected by ballot for each succeeding 2-year term.
3. The membership of the Council is to be unlimited and all water-sport enthusiasts within the "Great Lakes Area" are to be invited and encouraged to be members. The American National Red Cross "Water Safety" and First Aid County Chairmen will be invited to be members. The ARC representatives of Chase, Hitchcock, Red Willow, and Frontier Counties will be contacted for their participation in the activities of the Council.
4. A committee of five was appointed to initiate and organize a "rescue unit" which will include transportation, boats, drag hooks, resuscitator, first-aid equipment and supplies, radio communication, life buoys, life preservers and jackets, divers with appropriate equipment, and other rescue unit facilities.
5. The Committee recommends initiation of a Governor's Aquatic Water Sports Safety Council for the State of Nebraska. Mr. A. M. Breland was designated to directly negotiate with the Governor for interest and participation in the initiation of this proposed Council.
6. The Council will meet on a monthly basis throughout the water recreation season or oftener, if necessary, as determined by the Chairman, depending on the nature and frequency of public unsafe actions, conditions, and situations.
7. Mr. Dean Schachterle, Head, Land Management Section, of the Bureau of Reclamation, was designated to coordinate public use recreation planning with the Council as well as other state and Federal agencies.

8. The Bureau of Reclamation will assist the Council in providing technical guidance and assistance as necessary and as required. Mr. Paul H. Berg, Project Manager, and Mr. A. D. Soderberg, Engineer, were named as authorized representatives of the Bureau.

9. The Steering Committee recommends an all-out effort be made by the American Red Cross to conduct first-aid training classes throughout the four-county area, with specific stress on the manual methods of artificial resuscitation in all types of asphyxia, particularly in drowning cases.

10. The Water Safety Council and the McCook City Recreation Committee, together with the McCook City Boat Club and other organized boat clubs throughout the four-county area, will coordinate all planning actions relative to establishing an acceptable water safety program in the interest of the conservation and preservation of human life.

11. The Bureau Projects Safety Engineer will continue water safety schools of instruction to schools and civic community organizations in cooperation with the ARC.

12. All recommendations and actions by the Council will also be coordinated with the Nebraska State Game, Forestation, and Parks Commission Authorities.

13. Further study will be made to install appropriate signboards near boat ramps and other public use areas for the purpose of posting "Water Safety" education signs.

14. The purpose of the Council is being promoted to save lives from drowning in recreational activities on impounded and running waters, which includes reservoirs, irrigation canals, rivers, lakes, ponds, gravel pits, sandpits, and municipal supervised swimming facilities.

Columbia Basin Project: Mr. Neal brought up an item which has been of concern to the project for some time. Individuals are entering our various chute structures for a "ride" down the slope. Our field personnel make a practice of advising individuals of the dangers of the structures and canals when they encounter swimmers in the canals. Most dangerous structures are signed and/or fenced. It was agreed that fencing chutes would not be very effective because swimmers could enter the canal above the chute in spite of fencing. It was agreed that the use of signs and educating the public were the most effective steps to take.

* * * * *

FROM THE FIELD

Canadian River Project: Fourteen inspectors and supervisors were called into a meeting July 25. The purpose was to outline inspector's responsibilities toward safety. Mr. C. O. Crane, Project Construction Engineer, addressed the group stating that inspectors and supervisors must become actively concerned with safety and that we must make a concerted and continuing effort to eliminate hazards and reduce the accident potential.

Canyon Ferry Project: Installation of intermediate cables on the handrails on top of the dam is approximately 30 percent complete. A gate was installed in the powerplant parking area above the draft tube operating platform. This gate will be kept locked to prevent unauthorized persons from entering the area.

Boulder Canyon Project: On July 18, Dr. Thomas White of Boulder City showed the film "Life in Your Hands," which presented the closed chest cardiac massage technique. This film was produced and distributed for the John Hopkins Medical Institution by the Smith, Kline, & French Laboratories. All but one project in this region had representatives at this training session. Employees from the National Park Service, Bureau of Mines, Boulder City, and Southern California Edison Company were represented, totalling 55. The film was exceptionally well prepared. Dr. White's demonstration and explanation of this new technique was most thorough and complete. The demonstration is recommended for all Bureau employees.

Seedskadee Project Office: Completed and installed a blackboard in the garage giving all vehicle numbers, lubrication changes, inspections, etc., in order to set up a better program on vehicle safety and maintenance checking.

Yuma Projects: Installation of seat belts in Government vehicles was the first item of discussion at the safety meeting. Chairman L. C. Nicholson noted the many benefits from the use of seat belts and told the committee that belts would be installed in Government cars where the use of belts would be assured. Also discussed was the use of red safety vests by employees who work on or near streets and highways. A vest was shown the committee and all agreed it could easily be seen from a great distance. The Safety Officer stated that 10 of these fluorescent vests had been purchased and would be used by survey parties; however, other divisions would be furnished vests upon request.

Las Cruces Irrigation Branch: The Safety Engineer, using the graph of accidents sent from the El Paso Office, led a discussion on the accident rates in the Las Cruces Branch. The importance of workmen wearing correct-type shoes and use of gloves was

emphasized. An article was read on the use of epoxies. The dangers of toxic epoxies was explained and the use of proper apparel for employees handling epoxies was stressed.

Glen Canyon Unit: Inspectors in the Transmission Line Division report attending a number of the contractor's 5-minute toolbox safety meetings where subjects relative to the operations being performed were discussed. One of these reports mentioned that the meeting was conducted by the superintendent, assisted by a Navajo interpreter, in order that the Navajo workmen would also benefit from the meeting. A cable failure on a concrete bucket recently could have caused a serious accident. The accident occurred when one of the two cables on a 12-yard bucket parted just as the cableway operator started to lift it from the loading dock on the trestle. These buckets and cables are inspected regularly but because the cable failed inside the socket this could not have been detected. Since this occurrence, we have been advised that the cables will all be replaced after 90 days' use whether they show any wear or not.

Upper Missouri Projects: It was brought out that the survey parties have been encountering many rattlesnakes, particularly in the West Bench and Milligan Canyon areas. Mr. Weber reported that all parties are equipped with snakebite kits and that everyone has been cautioned repeatedly during weekly safety meetings to carry snakebite kits into the field with them. It was also noted that instructions in the use of the kits should be given at weekly meetings.

Niobrara-Lower Platte Projects: Project Manager Paul L. Harley commented on a letter received from the Assistant Commissioner and Chief Engineer, relative to the Bureau's safety program with contractors at St. Paul. It was the general consensus of the Safety Committee that contractors are showing improvement in cooperating with the Bureau in matters of safety meetings, first-aid training courses, and willingness to follow safe working practices. Mr. Harley thought the supervisors have greatly improved, especially in two respects: (1) Quality of meetings, and (2) Diversity of topics discussed at safety meetings.

* * * * *

SAUCEPAN COVERS

The Post Office Department expects to order 20,000 eight-inch stainless steel saucepan covers for mounting in such a way that they will reveal small children playing at "blind spots" near the wheels.

A test installation was made of the discs on 12 vehicles at Sarasota, Florida, followed by another test at Suitland, Maryland.

Not one of the vehicles on which the device was installed has had an accident involving small children. The drivers themselves say the discs provide the best means yet developed to help reduce accidents with small children.

The 20,000 discs on order will be mounted on 3/4- and 2-1/2-ton trucks. The basic installation has been a single disc mounted on a bracket affixed to the upper right-hand side of the windshield.

--NSC Commercial Vehicle Newsletter

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COLUMBIA BASIN PROJECT



1. Safety kit developed by Irrigation Division for use of ditchriders and canal maintenance men. Kit contains 50-foot nylon rope for emergency water rescue, snakebite kit, sun glasses, first-aid kit and safety glasses.

2. Safety signs on outlet control structure to Main Canal from Banks Lake near Coulee City. Dangerous currents are set up by water entering outlet tubes. In addition, three buoys are moored in reservoir to warn boaters and swimmers of the danger.



COLUMBIA BASIN PROJECT



3. Safety devices at inlet West Canal Siphon. Note cyclone fence, warning signs, and safety screen. The fence extends along both sides of the canal within the city limits.

4. Safety devices at intake channel to Potholes East Canal headworks, O'Sullivan Dam. Note signs and 5-strand barbed wire fence.



OFF-THE-JOB SAFETY

Since the establishment of the construction office at Ainsworth, Nebraska, safety films have been shown monthly to Bureau employees, their families and guests during evening social functions. Project Manager Paul L. Harley and the Projects Safety Officer attended their July meeting. It was gratifying to see the number of Project employees and their families present. Over 70 percent of the Project employees regularly attend these meetings. Construction Engineer R. L. Boyce was complimented on his employees' safety attitude and willingness to participate in safety activities.

* * * * *

PREVENTION COSTS LESS

Helen Keller, the world's most famous blind citizen, has said: "If one-tenth of the money we now spend to support unnecessary blindness were spent to prevent it, society would be the gainer in terms of cold economy, not to mention considerations of the happiness of humanity."

Any such attempt must begin with accidents in the home, on the farm, or in the factory. Almost all are preventable. In the United States it is computed that 300,000 accidents to the eyes occur each year, necessitating cessation of work for 1 day or more--that is, one such accident every 30 seconds, or nearly 1,000 every 8-hour day throughout the year. It has been estimated that the average period of disability for an eye injury is 15 weeks, in comparison with an average of 5 weeks for all accidents to other parts of the body and that more eyes are lost from these accidents than are legs, arms, hands, and feet combined.

In Great Britain, in factories alone, there are each year 10,000 accidents to the eyes (either mechanical or chemical) of sufficient severity to disable the workman for more than 3 days.

It is estimated that 95 percent of these accidents are preventable, given adequate eye testing, adequate illumination, and if the proper precautions are taken. "It would seem incredible," says a leading eye surgeon, "that this astonishing waste in resources should be allowed to go on in any economically minded community."

--Safety News, April 1962, Printed
by the National Safety Council of
Australia

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION, REGION 7
Niobrara-Lower Platte Projects Office
P. O. Box 997
Grand Island, Nebraska

July 5, 1962

PROJECTS SAFETY BULLETIN NO. 12

SEAT BELTS SAVE LIVES

As we study motor vehicle accidents and victims more thoroughly, we've discovered that many serious and fatal injuries could have been avoided if we could get the passengers stopped as soon as the car stops. Many deaths and serious injuries from auto accidents are needless. The child who falls from a moving vehicle, the girl who's thrown to the floor by a sudden stop, the woman catapulted against the windshield by a collision--all could have been protected by adequate seat belts.

Let's assume you're a careful driver, never exceed the speed limit, drive on the right side of the street, don't do much highway driving, keep your car in good condition, and have never been involved in an accident. Is that enough? Not at all. Some of the worst accidents happen when one car is standing still at an intersection. Many others happen at slow speeds on city streets. Still others occur when someone loses control of his car and skids into an innocent driver. Only an optimist assumes he won't be involved in a collision. We're up against a statistical risk that no one can ignore.

All projects motor vehicles will soon be equipped with seat belts. The purpose of these belts is to provide greater safety for the occupants of projects motor vehicles. Seat belts not only improve chances of survival in a bad accident, but also increase our chances of coming through a minor accident unhurt. The fastening of seat belts must become automatic. Let's be safety conscious and use the safety devices provided for our protection.

Each operator assumes responsibility that, "This vehicle does not move until all seat belts are fastened."

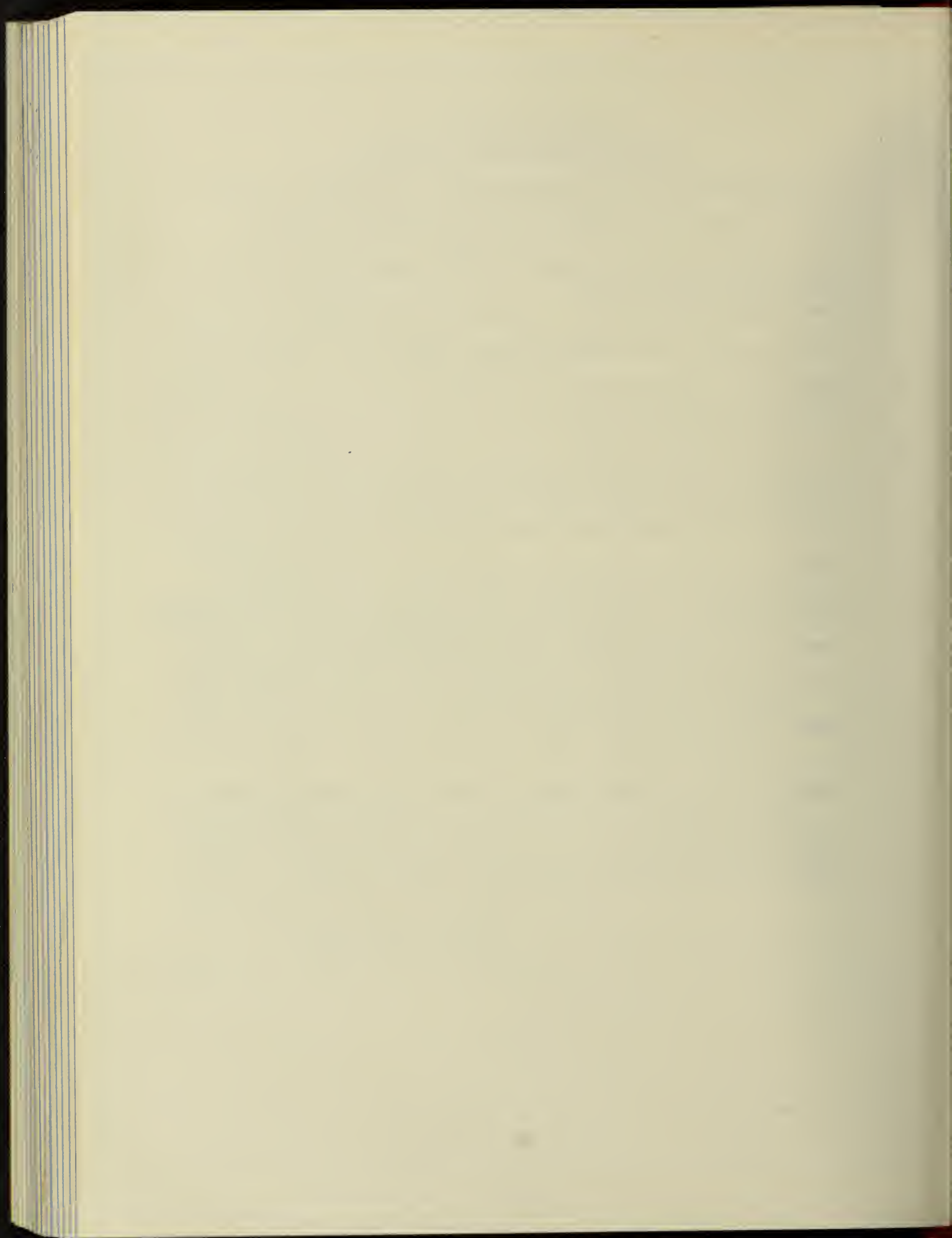
THOSE WIRES ARE STILL HOT!!

A contractor's rig was laying pipe under a powerline. The operator was being very careful and the work was going smoothly. Then another employee dropped a match in some dry grass and flames sprung up suddenly. The operator was startled and swung his rig quickly to move out of the way--momentarily forgetting the powerline. Sparks flew all over the place, but no one was hurt and very little damage was done.

On another contract job, an employee disconnected one end of a guy wire which had to be moved out of the way. The other end was attached to a power pole on which there were two transformers. In attempting to move the loose end out of the way, the man stumbled momentarily and flipped the wire so that it contacted one of the transformers--the lower-voltage one. He received a good sharp tingle, but was not hurt.

These two "near misses" illustrate the fact that you can't be too careful around powerlines. The safe way generally takes two people. One to do the work and one to watch, or help.

--Weber Basin Project



DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH July 31, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	234	39,312	274,568						0.0	0.0		0	0	0
Denver Office & Laboratories	1,432	240,476	1,672,432	1			28		0.6	1.3		17	3,808	
Alaska District	37	5,381	35,687						0.0	80.3		0	321	
REGION 1														
Boise Regional Office	170	25,621	171,047						0.0	10.2		0	17	
Central Snake Projects	51	8,021	52,617	1			1		19.0	38.6		19	540	
Chief Joseph Dam Project	--	--	31,163						0.0	0.0		0	0	
Coeur d'Alene Project	8	1,344	2,112						0.0	--		0	--	
Columbia Basin Project	870	153,120	1,037,844	9			37		8.7	13.8		36	90	
Crooked River Project	0	0	2,150						0.0	0.0		0	0	
Hunzry Horse Project	57	9,878	65,163	1			20		15.3	0.0		307	0	
Lower Columbia Development Office	40	2,720	42,226						0.0	0.0		0	0	
Minidoka Project	145	25,593	172,117	3			11		17.4	5.3		64	11	
Rogue Project	13	2,184	34,912						0.0	0.0		0	0	
S Snake River Development Office	47	9,232	51,809	1			600		19.3	--		11,581	--	
The Dalles Project Office	32	5,184	37,190						0.0	0.0		0	0	
Upper Columbia Development Office	40	6,103	40,214						0.0	0.0		0	0	
Vale Project	--	--	12,197				3		0.0	0.0		0	0	
Yakima Project	29	4,384	30,564	1					32.7	23.0		98	1,480	
Totals & Averages	1,502	256,384	1,790,527	16			672		8.9	11.5		375	106	
REGION 2														
Sacramento Regional Office	649	109,032	712,816	1	5		10	24	9.2	7.0	4.8	92	34	76
Folsom Field Division	69	11,705	82,190						0.0	0.0		0	0	
Fresno Field Division	152	25,536	180,384	2			28		11.1	11.2		155	1,851	
Shasta Field Division	120	20,160	139,479				96		7.2	13.5		688	249	
Tracy Field Division	135	30,472	216,782	3			87		13.8	0.0		401	0	
Distribution System Projects--CVP	29	2,734	37,408						0.0	0.0		0	0	
El Dorado Projects--CVP	50	8,400	55,128						0.0	16.5		0	49	
Red Bluff Office--CVP	112	18,816	86,930						0.0	--		0	--	
San Luis Unit--CVP	238	39,384	222,254						0.0	22.2		0	44	
Trinity River Division--CVP	201	49,424	244,948						0.0	11.6		0	155	
Klamath Project	42	7,215	51,237						0.0	17.5		0	237	
Lahontan Basin Project	58	9,744	62,288						0.0	0.0		0	0	
Totals & Averages	2,002	333,232	2,194,844	1	11		10	235	3.0	5.0	7.4	30	107	258
REGION 3														
Boulder Regional Office	128	21,504	150,680						0.0	0.0		0	0	
Boulder Canyon Project	160	28,429	192,629	3			89		15.6	16.2		462	589	
Colorado River FW & IS	88	11,522	82,661	2			7		24.2	25.5		85	536	
Parker-Davis Project	272	48,637	328,662	1			4		3.0	15.1		12	254	
Phoenix Development Office	62	10,416	65,035	1			1		15.4	--		15	--	
Yuma Projects Office	142	20,916	156,102	1	2		5	47.8	12.8	44.5		48	32	395
Totals & Averages	855	141,424	975,772	1	9		1	106	7.1	9.2	22.1	7	109	318
REGION 4														
Salt Lake Regional Office	332	102,034	437,781						0.0	0.0		0	0	
Emery County Project	27	4,469	17,153						0.0	--		0	--	
Central Utah Projects Office	166	27,879	186,593	3			233		16.0	11.3		1,246	62	
Caracanti Unit--CRSP	75	12,814	82,803	1	1		6,000		12.1	43.1		72,481	47	
Flaming Gorge Unit--CRSP	169	26,828	157,188						0.0	0.0		0	0	
Glen Canyon Unit--CRSP	324	63,804	407,076				782		18.3	7.4		1,940	78	
Navajo Unit--CRSP	55	11,718	77,698				0	10	85.3	12.4	0.0	851	129	0
Transmission System Office--CRSP	81	12,960	103,944						0.0	0.0		0	0	
Durango Projects Office	95	16,795	110,079				8		9.1	--		73	--	
Grand Junction Office	134	24,052	162,052	2			79		12.3	5.1		437	26	
Logan Development Office	17	2,506	16,146						0.0	0.0		0	0	
Seedskadee Project	103	15,658	100,664	1			45		9.9	0.0		447	0	
Upper Green River Project	29	4,765	34,192						0.0	0.0		0	0	
Weber Basin Project	216	36,784	214,148						0.0	10.8		0	336	
Totals & Averages	1,853	365,064	2,403,877	1	12	1	10	7,157	2.7	5.7	4.5	27	3,402	61
REGION 5														
Amarillo Regional Office	104	16,540	124,585						0.0	8.0		0	16	
Albuquerque Development Office	87	4,576	21,469						0.0	--		0	--	
Austin Development Office	77	10,546	78,832						0.0	12.5		0	425	
Canadian River Project	119	20,012	122,145						0.0	0.0		0	0	
Lower Rio Grande Rehab. Project	53	10,544	75,844						0.0	12.4		0	62	
Middle Rio Grande Project	235	37,922	316,747	4			36		12.6	21.6		114	230	
Norman Project Office	65	8,768	45,991						0.0	--		0	--	
Oklahoma City Development Office	29	4,092	32,902						0.0	0.0		0	0	
Rio Grande Project	231	51,200	349,224	4			24		11.4	26.3		69	464	
San Angelo Project	83	14,611	109,442	2			99		18.3	7.4		905	7	
Washita Basin Project	25	3,633	45,733						0.0	0.0		0	0	
Wichita Project	54	10,123	45,620				1		21.9	0.0		22	0	
Totals & Averages	1,169	192,680	1,368,834	11			160		8.0	16.5		117	221	
REGION 6														
Billings Regional Office	240	38,106	244,994	1	1		1	26.2	3.9	0.0		26	0	
Canyon Ferry Project	119	3,095	21,744						0.0	0.0		0	0	
East Bench Project Office	74	11,444	53,717						0.0	0.0		0	0	
Fort Peck Project	26	4,222	35,412						0.0	0.0		0	0	
Missouri-Oaha Projects Office	286	48,252	300,618	2			242		6.7	48.9		0	731	
Missouri-Souris Projects Office	1177	23,933	153,605	1			6		6.5	6.5		39	39	
Power System Operations Office	38	6,080	45,040						0.0	0.0		0	0	
Riverton Project	31	4,935	33,718						0.0	0.0		0	0	
Upper Missouri Projects Office	113	17,777	116,200	3			28		25.8	20.4		241	254	
Yellowtail Project Office	123	18,557	115,646				3	3	53.9	8.6	0.0	162	26	0
Totals & Averages	1,097	178,970	1,161,684	2	8		0	280	11.2	8.9	8.9	22	241	78
REGION 7														
Denver Regional Office	160	27,720	189,144						0.0	0.0		0	0	
Denver Development Office	35	5,808	34,984						0.0	0.0		0	0	
Janesa River Projects	327	60,192	397,844	1			8		2.5	7.8		20	213	
Nebraska-Lower Platte Projects	346	55,360	376,960						0.0	13.3		0	73	
North Platte River Projects	309	49,440	348,720						0.0	2.8		0	3	
South Platte River Projects	178	29,904	204,418	1			14		4.9	5.0		68	10	
Totals & Averages	1,390	228,424	1,552,070	2			22		1.3	6.2		14	80	
CONSOLIDATED TOTALS	11,574	1,981,447	13,34,335	5	70	1	25	8,660	2.5	5.3	8.8	13	609	628
TOTALS LAST YEAR (1961)	10,472		22,258,640	162		1		9,076	7.6				427	

* FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH July 31, 1962

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS			
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	
REGION 1															
Chief Joseph Dam Project	—	—	43,291						0.0	0.0		0	0		
Columbia Basin Project	108	12,545	142,130		1			3	7.0	6.7		21	47		
Crooked River Project	0	0	240						0.0	0.0		0	0		
Hungry Hores Project	4	611	1,884						0.0	0.0		0	0		
Minidoka Project	2	125	6,134						0.0	0.0		0	0		
Rogue Project	0	0	31,451						0.0	21.5		0	65		
Vale Project	—	—	15,726						0.0	—		0	—		
Yadina Project	6	580	9,672						0.0	0.0		0	0		
Totals & Averages	120	13,861	250,628		1			3	4.0	8.0		12	35		
REGION 2															
Sacramento Regional Office	0	0	1,035						0.0	490.4		0	4,904		
Distribution System Projects Office	1	27	89,315		4			99	44.8	82.2		1,108	1,890		
El Dorado Project Office—CVP	227	36,413	89,911	5	9		30	89	137.3	100.1	90.6	824	945	785	
Red Bluff Office—CVP	143	25,536	67,909	3	3		140	140	117.5	44.2	—	5,482	2,062	—	
San Luis Unit—CVP	0	0	2,166						0.0	—		0	—		
Trinity River Division—CVP	874	139,620	774,565	11	39		210	676	78.8	50.4	45.5	1,504	873	5,733	
Klamath Project	24	2,143	26,192						0.0	0.0		0	0		
Lahontan Basin Project	60	9,580	17,772						0.0	145.3		0	2,138		
Tracy Field Division	7	768	1,232						0.0	—		0	—		
Totals & Averages	1,336	214,087	1,070,097	19	55		380	1,000	88.7	51.4	51.6	1,775	934	5,270	
REGION 3															
Boulder Canyon Project	0	0	1,626						0.0	69.4		0	3,908		
Colorado River FW & IS	49	5,710	45,201						0.0	0.0		0	0		
Parker-Davis Project	13	1,232	2,093						0.0	0.0		0	0		
Phoenix Development Office	4	496	1,933						0.0	—		0	—		
Yuma Projects	35	6,130	50,636		1			26	19.7	17.0		513	443		
Totals & Averages	101	13,568	101,489		1			26	9.9	22.5		256	1,048		
REGION 4															
Central Utah Projects Office	48	6,175	41,600		2			67	48.1	40.7		1,611	173		
Quercanti Unit—CRSP	254	50,577	148,989	1	2		6	12	19.8	13.4	—	119	81	—	
Flaming Gorge Unit—CRSP	958	171,413	849,847		6	1		6,184	7.1	5.2		7,277	435		
Glen Canyon Unit—CRSP	1,820	317,011	1,862,366		34			82	1,559	9.5	18.3	19.2	259	837	7,956
Navajo Unit—CRSP	376	90,422	460,649	3	9			26	242	33.2	19.5	9.4	288	525	80
Emery County Project	4	804	1,389						0.0	—		0	—		
Florida Project	179	29,323	193,602		7			174	36.2	0.0		899	0		
Grand Junction Office	145	35,190	188,715	1	4		42	76	28.4	21.2	30.5	1,194	403	132	
Seedekades Project Office	382	70,137	254,905		3			72	11.8	0.0		283	0		
Weber Basin Projects	272	47,058	171,945		6	1		6,053	34.9	8.6		35,803	60		
Totals & Averages	4,438	818,110	4,173,107	8	73	2	156	14,439	9.8	17.5	16.6	191	3,460	5,003	
REGION 5															
Amarillo Regional Office	6	580	734						0.0	96.2		0	192		
Albuquerque Development Office	3	277	277						0.0	—		0	—		
Canadian River Project	230	43,600	141,778		5			91	35.3	—		642	—		
Lower Rio Grande Rehab. Project	152	23,216	138,089	1	3		1	3	43.1	21.7	0.0	43	22	0	
Middle Rio Grande Project	0	0	10,490						0.0	0.0		0	0		
San Angelo Project	400	93,798	690,545	6	21	2	12,033	12,317	64.0	30.4	56.4	128,286	17,837	26,632	
Washita Basin Project	23	1,600	104,613		6			35	57.4	25.1		335	307		
Wichita Project	123	17,380	31,508						0.0	—		0	—		
Totals & Averages	937	180,451	1,127,034	7	35	2	12,034	12,446	38.8	31.0	41.9	66,688	11,043	17,036	
REGION 6															
Billings Regional Office	0	0	340						0.0	—		0	—		
East Bench Project Office	262	29,862	167,798	1	9		41	154	33.5	53.6	26.5	1,773	918	648	
Missouri-Laha Projects Office	419	57,772	211,014	3	6		14	21	51.9	28.4	64.3	242	100	1,190	
Missouri-Souma Projects Office	117	19,358	58,450	1	3		10	160	51.7	51.3	24.5	517	2,727	490	
Riverton Project	19	4,228	19,095						0.0	0.0		0	0		
Upper Missouri Projects	13	1,134	2,664						0.0	0.0		0	0		
Yellowtail Project	444	91,973	470,512	1	6		27	160	10.9	12.8	0.0	294	340	0	
Totals & Averages	1,274	204,327	929,873	6	24		92	495	29.4	25.8	26.4	450	532	529	
REGION 7															
Kansas River Projects	303	54,768	305,502		2			241	5.5	10.5		789	20,989		
Nicholls-Lower Platte Projects	567	109,040	453,887	2	6		34	51	18.3	13.2	13.3	312	112	726	
North Platte River Projects	6	520	10,833		1			12	92.3	99.6		1,108	1,718		
South Platte River Projects	13	963	9,836						0.0	0.0		0	0		
Totals & Averages	889	165,291	776,158	2	9		34	304	12.1	11.6	17.0	206	392	8,977	
CONSOLIDATED TOTALS															
TOTALS LAST YEAR (1961)	9,095	1,609,695	8,428,386	42	198	4	12,696	28,713	26.1	23.5	26.2	7,887	3,407	6,265	
	7,438		5,215,753		367	12		90,162		24.1			5,926		

* FATALITIES INCLUDED IN TOTAL DISABLING





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SAR

SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

RECEIVED
OCT 15 1962
FEDERAL BUREAU OF INVESTIGATION

August 1962

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Front Cover Photo: View showing students unloading
from a school bus at Lakewood
High School.

SAFETY RECORD is published monthly by the Office of
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BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - August 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Region 7	1.1	12	0.1	3.9
Region 2	5.1	2,438	124.3	3.8
Region 4	5.8	3,059	177.4	2.4
Region 5	6.9	101	7.0	2.4
Region 6	7.3	224	16.4	3.6
Region 3	7.9	93	7.3	5.9
Region 1	9.1	380	34.6	1.9
Alaska District	24.0	96	23.0	28.3
Totals to Date (1962)	5.2	989	51.4	3.4
Totals Last Year	7.6	427	32.5	4.6

*Injury index is equal to frequency rate times severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - August 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 3	8.4	219	0
Region 1	9.7	97	0
Region 7	14.7	2,232	0
Region 4	17.9	2,986	2
Region 6	24.7	5,813	1
Region 5	30.4	9,502	2
Region 2	44.2	1,020	0
Totals to Date (1962)	23.1	3,690	5
Totals Last Year	24.1	5,926	12

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
August 31, 1962

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost	Type	Description	No.	Days lost
1	Railroad	1	6,000	13	Falling Objects	6	725
3	Water Craft	1	135	14	Falls of Persons	20	7,292
5	Vehicles	2	3	16	Striking Against	2	14
9	Electricity	1	45	17	Flying Particles	2	6
10	Flash Burns	1	4	18	Hand Tools	5	63
11	Dust-Chemicals	3	12	19	Machinery	2	105
12	Handling Materials	20	298	20	Not otherwise classified	14	382
Totals						80	15,084

B. OPERATIONAL SUMMARY

Operation	Man-Hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	3,492,583	5	753	1.4	216
Construction	3,900,098	19	12,772	4.9	3,275
Design	1,585,807	1	28	0.6	18
Investigation	1,988,036	16	901	8.0	453
O&M Irrigation	1,919,423	22	215	11.5	112
O&M-Power	2,366,588	17	415	7.2	175
Totals	15,252,535	80	15,084	5.2	989

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3- 3-62	Inspector	Raising safety strap, fell from pole	180
4- 9-62	Electrician	Fell from bushing on oil circuit breaker	96
5- 9-62	Drill Helper	Drill drive hammer struck hand	600
5-14-62	Surveying Aide	Fell from bridge pier into river, drowned	6,000
6-14-62	Engineer	Contacted powerline with drill pipe	45
6-19-62	Engineer	Caught hand in air propeller (boat)	135
8- 3-62	Inspector	Struck by agitator car in tunnel	6,000
8-31-62	Inspector	Struck by drifting concrete bucket	270

ACCIDENT REVIEW

TUNNEL OPERATIONS

Employer: Government

Activity: Contractor hauling agitator (concrete mixer car) in tunnel.

Accident Situation and Occurrence: A motor engine was returning from the tunnel heading with an empty agitator car to leave it at the California switch. A Bureau Inspector and the contractor's brakeman were riding on the rear platform of the engine. The train then stopped on the right side of the tunnel where the brakeman stepped off to brake the agitator car with a chain-type chock. The Bureau employee had stepped off the motor and was standing at the right-hand side of the tunnel. After the brakeman had chocked the car, the motor was unhooked and was proceeding to pick up a loaded agitator at the left side of the switch. The unhooked agitator car apparently moved over the chock and proceeded to roll down the track pinning the Bureau employee between the 6-inch pipeline on the right tunnel wall and the main frame of the car. The employee received internal injuries and died several hours later at the hospital.

Cause Determination: (1) Failure of the chock to properly hold the agitator car from moving. (2) Reduced clearance (approximately 7 inches) between pipeline and car on the right side of tunnel. The contractor has welded additional weights on the chain chock to provide more positive stopping action. Pipelines were raised a sufficient height to provide greater clearance between side of tunnel and mobile equipment.

HAULING OPERATIONS

Employer: Contractor

Activity: Hauling fill material with scrapers.

Accident Situation and Occurrence: Two DW-20 scrapers, one empty and one loaded, collided head on while traveling on a haul road at 4 o'clock in the morning. The operator of the empty scraper received injuries that necessitated the removal of his left eye. The standard time charge for loss of an eye is 1,800 lost-time days.

Cause Determination: Both machines were traveling near the center of the road rather than in their respective lanes. The haul road was approximately 85 feet wide at the site of the accident, so plenty of roadway was available for safe passing. It was determined that lighting or dust conditions were not a factor in this accident. Obviously, it was an error of judgment by both operators not driving in their proper lanes. Driver fatigue may have been a contributing factor in this case.

CLEARING OPERATION

Employer: Contractor

Activity: Felling trees in clearing operation.

Accident Situation and Occurrence: The employee was working with a crew engaged in clearing brush and trees from the area. A falling tree struck the employee across the shoulders. He received a fractured vertebra and the lost time was estimated at 55 days.

Cause Determination: Felling trees without proper signal or warning. Clearing crews should be separated to provide safe distances between felling operations.

REPAIRING MACHINERY

Employer: Contractor

Activity: Making mechanical repairs to machinery.

Accident Situation and Occurrence: Employee was changing the cutting teeth on a trenching machine. A piece of steel broke off and struck him in the eye. Estimated lost time was 12 days for the eye injury. Employee had been provided with safety glasses but was not wearing them while repairing machinery.

FLYING PARTICLES

Employer: Government

Activity: Contractor drilling hole for survey stake.

Accident Situation and Occurrence: Contractor's employee was about to drill a hole for a Bureau survey point. When the air was turned on, the hose blew loose from the coupling at the jackhammer. Bureau employee received foreign particle in his eye and lost time was 4 days. Clamps should be used to secure air hose to the coupling.

LIFTING CULVERT

Employer: Contractor

Activity: Lifting pipe culvert.

Accident Situation and Occurrence: Contractor was cleaning dirt out of a pipe culvert by lifting it in the air. The pipe came loose and fell striking the employee. He received multiple injuries and the estimated lost time was 180 days.

Cause Determination: A chain without a safety latch on the hook had been used to lift the pipe. The employee should have stood in the clear from the load. It was reported that there was no foreman present at the worksite.

CONCRETE PLACEMENT

Employer: Government

Activity: Placing concrete with 8-cubic-yard bucket from a high line.

Accident Situation and Occurrence: Contractor was placing concrete with a loaded 8-cubic-yard bucket. Bureau employee's leg was caught between the concrete bucket and the upstream face form. He received a compound fracture of the lower right leg and the lost time was estimated at 270 days.

Cause Determination: The inspector was too close to area where the bucket was being dumped. Inspection personnel should position themselves so that they are in the clear regardless of the degree of control exercised by the bellboy and the high-line operator over the bucket.

HAULING OPERATIONS

Employer: Contractor

Activity: Hauling fill material.

Accident Situation and Occurrence: Employee was operating a loaded bottom-dump tractor unit when it stalled on a road ramp. It rolled back, jackknifed, and overturned. The employee sprained his ankle when he jumped off the tractor and the lost time was estimated at 28 days.

Cause Determination: The operator could have dumped the load and prevented the tractor from rolling back. The employee was new on the job and had been working only 2 days. Apparently he had not been trained sufficiently in the proper operation of the heavy equipment.

* * * * *

WATER SAFETY

PRECAUTION CAN SAVE LIVES

With 20 drownings at nearby waterways and lakes in the last 10 years and with Hugh Butler Lake soon to draw even more swimmers, boaters, and general pleasure seekers in the future, the recently formed Water Safety Council of the Great Lakes of Nebraska is attempting to minimize future accidents by urging water safety for all.

How does one go about keeping a fellow human from acting foolish near water and causing accidents which result in his or his companion's drowning? These are questions being asked by those on the council.

To date they have taken steps to promote a water rescue unit, set in motion plans for warning and safety signs at the lakes, are promoting a state water safety council and, until more state patrolling of area lakes is possible, they are asking the McCook Boat Club members to serve as volunteers providing "courtesy boats" at the lakes circulating "water safety courtesy tips sheets."

The safety tips as prepared by Ralph Meager, safety engineer at the local Bureau of Reclamation office, among other things urge lake users to:

1. Use life jackets when on the water
2. Show courtesy, common sense and cooperation to make a motorboat a pleasure boat instead of a menace
3. Swim in buoyed areas where marked
4. Stay off of lakes during storms
5. Stay with your boat should it capsize
6. Refrain from overloading your boat
7. Refrain from mixing liquor with boating pleasure
8. Stay out of canals
9. Learn to administer artificial respiration and to complete the American Red Cross First Aid and Life Saving Courses
10. Refrain from overpowering your boat
11. Never swim alone or when overheated or tired

12. Never dive in unknown water

13. Supervise children near water

These are simple precautions that everyone knows without being told, but precautions which too many ignore at one time or another. Precautions that would have saved an annual average of two local lives over the last 10 years.

--McCook Daily Gazette - August 24, 1962

Niobrara-Lower Platte Projects: The Sherman-Howard County Water Safety Council regular monthly meeting was held August 14, 8 a.m., at the Howard County Courthouse, Loop City, Nebraska. Residents of St. Paul, Farwell, Ashton, Boelus, Loop City, and Arcadia attended the meeting. The committee for drafting the organization's constitution bylaws submitted their proposal. Each article was read and discussed. A copy of the constitution bylaws adopted by the organization will soon be available. The objectives as set forth are: "The objectives of this organization are to provide leadership in the field of water safety by studying and putting into effect a means of developing a safety-conscious public on or near the water."



Cleaning trashracks on the Gateway Canal, using safety belt attached to a ring on a cable so that the workman can move back and forth easily--Weber Basin Project

VEHICLE SAFETY

BACK TO SCHOOL

September is the month of the year when school-age children will be returning to school. They will be traveling by buses, cars, or will be going on bicycles or on foot to and from school. It is the time to review your driving habits with particular emphasis on driving in order to protect the children.

Extra precautions should be taken by drivers during the opening and closing hours of school, when the streets will be crowded with school traffic. Watch your speed when passing a school building or school ground during recess and while children are entering or leaving the area. Observe the posted speed limits - generally 15 miles per hour in school zones.

It is well to slow down at unattended pedestrian crosswalks near schools and stop if necessary to give foot traffic the right-of-way. Many schools have established student safety patrols for guiding pupils at public crosswalks. They have the authority to control traffic and their signals or directions must be followed when they are on duty.

Caution must also be exercised in driving where children are riding bicycles in the street. They normally recognize "no rules of the road" and you have to be alert at all times.

In general where children are concerned, you have to expect the unexpected at all times. You must have your car under control, and drive in a manner that will enable you to protect the children from their own unsafe acts. The National Safety Council quotes an old rule that still holds true - "REGARD EVERY CHILD IN OR NEAR THE STREET AS A HUMAN CAUTION SIGN." This is very sound advice.

Children are undoubtedly our greatest asset, representing America's stake in the future. Therefore, it behooves all of us to exercise vigilance and caution in order to insure ourselves that they are not maimed or injured on our streets and highways. Their safety and continued well being is largely dependent upon your driving habits and observance of the traffic laws and regulations. As an employee of Reclamation, resolve to observe the traffic laws and to drive in such a manner as to set an example for others to follow.

SAFEGUARD OUR CHILDREN BY DRIVING LIKE AN ADULT

* * * * *

TRAFFIC SAFETY

Congressional leaders expressed concern with indications that some automobile manufacturers were planning withdrawal from, or less than full compliance with, the Automobile Manufacturers Association's 1957 resolution to de-emphasize speed and racing. Congressman Roberts, Chairman of the House Health and Safety Subcommittee, announced that "so deeply concerned am I over this matter that I plan to hold hearings within the very near future on legislation which I have introduced to provide safe cars. I believe, inasmuch as members of the industry have indicated by their action that they are unable to cope with the situation, it is time for Congress to legislate to remedy the cause." Congressman Harris, Chairman of the House Interstate and Foreign Commerce Committee, said that it was "hardly in the public interest to promote racing instead of safety;" he asked the industry for examples of all recent ads promoting horsepower and speed.

--Traffic Safety - September 1962

SPEED DOESN'T KILL - IMPACT DOES

But speeding is a handy way to make sure you have enough impact. That is why we have speed laws and speed limits. Check any set of statistics. You'll come back to the same old story every time. The worst accidents happen where the fewest happen - out on the open road.

In city driving, you don't usually build enough momentum to provide the impact necessary to kill yourself. Oh, don't worry, you can do it. But, generally, you don't.

Out on the open highway, where hazards are fewer, the percentage of fatal accidents is invariably greater. Why? Because the higher speeds let more people turn themselves into human machine-gun bullets.

Let's break this down in terms of cold statistics. It has been estimated that if you are going between 71-80 miles per hour and you have a collision, you have one chance in two of being killed. That is impact at work.

<u>Speed</u>	<u>Chance of being killed</u>
0 - 10	1 in 1,373
11 - 20	1 in 963
21 - 30	1 in 316
31 - 40	1 in 97
41 - 50	1 in 88
51 - 60	1 in 31
61 - 70	1 in 7
71 - 80	1 in 2
Over 80	1 in 1

Speeding is like playing Russian roulette. You may miss having an accident for a long time. But when you do, the impact will get you.

--Borrowed from Region 4 Safety News - July 1962

AUTOMOTIVE SEAT BELTS

Region 6 has issued a supplement to Reclamation Instructions, which requires the installation of seat belts in all Government vehicles operated by employees of the region. Installation is to be accomplished as soon as possible and not later than October 1.

The effectiveness of properly installed seat belts is no longer conjectural; experiments have proven they lessen the exposure to injury or death at all reasonable operating speeds. The use of seat belts is mandatory for all drivers and passengers in Region 6 vehicles.

DRIVING ARTICLE

The article "What Would You Do in These Driving Emergencies," taken from the September 1962 Reader's Digest, was issued to Bureau employees on the Flaming Gorge Unit. This question and answer article set up specific driving situations and then explained what the driver should do.

UPPER MISSOURI PROJECTS

The need to observe safe driving practices was re-emphasized, especially with the advent of bad weather. It was stressed that all field supervisors should be checking their vehicles to see that they are in proper condition for the coming winter and are equipped with winter tires, chains, functioning heaters and defrosters. It was recommended that the new Fleetside Dodge Pickups provided for Helena Valley Unit be remodeled to include a step just ahead of the rear wheel to facilitate the removal of equipment and material from the box.

MOTOR VEHICLE OPERATORS

The following instructions pertain to the licensing requirements for Bureau operators of Government motor vehicles. Reference Departmental Manual Release No. 520 - 394 DM 1-5, Motor Vehicle Operator Program.

Review of Licensing Policy. All operating offices shall check to insure that all employees permitted to operate a Government vehicle

possess a valid Motor Vehicle Operator's Identification Card (Standard Form 46) issued in accordance with the following provisions as set forth in Part 394.2 of the Department Manual.

1. All operators, without exception, must possess a current permit. This shall include temporary or provisional operators, who must have a valid permit in order to operate a Government vehicle.
2. Each applicant shall complete Form DI-131, Application for U.S. Government Motor Vehicle Operator's Identification Card.
3. Applicants and operators must possess a current State Operator's license.
4. Applicants and operators must indicate that they are physically qualified to operate a vehicle safely. Where any doubt exists as to the applicant's or operator's physical condition, he shall submit to examination by a physician. (Reference Part 394.4.6 of the Department Manual and Part 365.1.16-17 of Reclamation Instructions.)
5. Each applicant shall be given a practical road test by a designated supervisory employee in order to determine his ability to operate a motor vehicle.
6. Permits shall be renewed every 3 years, as provided in Part 394.4.5 of the Department Manual.

SEAT BELT PREVENTS INJURY

Mr. Larry Petersen, Klamath Project employee, was driving a Government vehicle on the highway when a 300-pound calf jumped unseen from the high weeds in the right-side borrow pit onto the road and lodged under the vehicle's front wheels. The car went out of control, crossed the road and struck a power pole. The calf was killed, the power pole moved, and the Government vehicle damaged. The driver was not injured apparently due to the fact that he was wearing a seat belt. The operator of the tow car which picked up the Government vehicle stated that it was the third time that week they had towed a car where seat belts had averted injury.

* * * * *

NEW YORK UNIVERSITY OFFERS
DEGREE IN INDUSTRIAL SAFETY

New York University offers MA degree in industrial safety. Added to the general curriculum in safety education, the new graduate program provides a new advanced study and specialization plan in accident prevention through a 36-semester-hour course. Full emphasis is placed on developing perception in the technical areas and proficiency in safety programs and management techniques. Graduates will then be prepared to serve in staff positions as careerists in industry or the accident prevention branches of Government. Program includes courses in engineering for safety, psychology, hygiene, and management.

--Safety Engineering - September 1962

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FROM THE FIELD

Trinity Division, CVP: Discussed with contractor recent equipment accident in which a 32-ton Euclid and a DW-20 collided, injuring both operators. However, due to use of seat belts and hard hats, neither employee received serious injury.

Curecanti Unit, CRSP: Scaling is now being performed on the north canyon wall and traffic has been limited in this area. What little traffic is necessary must clear with the high scalers before entering the area. Cross sectioning of the Gunnison River below the diversion tunnel outlet portal is now being done from a bosun chair suspended above the river on a 3/8-inch wire rope. All men working on this operation are required to and do wear life jackets.

North Platte River Projects: The safety committee was advised that a record of 2,000 days without a disabling work injury had been accomplished by Bureau employees at the Cheyenne Substation.

Flaming Gorge Unit, CRSP: Arch Dam Constructors are making a special drive in their safety program and on September 1 they had 78 days without a lost-time accident with 398,572 man-hours worked. Peter Kiewit Sons' Company have made a study of their overall accidents and have found that in the past during the last 4 months of the year, their accident rate has gone up; this year they are making a special effort to prevent accidents during this period.

El Dorado Distribution System, CVP: Two project-wide safety meetings were held during the month with approximately 45 employees attending each session. The August 2 meeting featured Mr. Jack Haseley, fire control foreman for the California Division of Forestry. Mr. Haseley reported the number of local fires, their causes, and damages sustained so far this season. At the August 30 meeting, Acting Project Construction Engineer Max T. Hedges honored three employees for their efforts in rendering first aid. Letters of commendation from the Regional and Project office were given these men. The program also featured the movie "Safety in Surveying Along Public Roads," produced and loaned by the U.S. Bureau of Public Roads.

Curecanti Unit, CRSP: Tecon Corporation (contractor) is now holding a staff meeting each Thursday and their foremen are holding toolbox safety meetings the following Friday. Some of the subjects discussed at these meetings have been:

1. Slings and rigging
2. Crane and derrick signals
3. Handling electric caps
4. Checking for loose rock before drilling
5. Operation of heavy equipment in hazardous areas
6. Backfilling trenches
7. General housekeeping

Boulder Canyon Project: The use of color in accident prevention was discussed and it was agreed that the idea has merit. It was recommended that the color schemes in "Factors of Safety" safety conference guide 27(b) be followed when repainting existing equipment.

Canadian River Project: The following was reported for contractor forces: A program was initiated to promote eye safety of the shop personnel with the distribution of safety glasses. Safety promotions have increased. New traffic signs have been ordered and those on hand were erected. A large jumbo safety sign has been erected at a location where it can be seen by all personnel on the job.

Excavating and mucking equipment in the tunnel have been changed over to diesel. It is equipped with exhaust scrubbers in order to reduce concentration of harmful exhaust gases. Test procedures were outlined and put into effect. The contractor has reduced his accident frequency rate from 84.8 in May to 26.5 through July.

Grand Junction Projects: The meaning and use of frequency rate, severity rate, and injury index were explained. The present statistics for Region 4 and the entire Bureau were covered. Safety statistics consistently show that most accidents result from falls of persons, handling objects, falling objects, and using hand tools. All our activities should be conducted with this in mind. Supervisors should provide proper training to the men for whom they are responsible and a safe working environment to reduce significantly, if not eliminate, accidents of the above types. A discussion was held in regard to the letter from the Regional Director on the subject of safety responsibilities and communications. It was emphasized that all matters pertaining to safety should be communicated clearly down through the ranks, and that each supervisor be certain his employees understand safety instructions given them and perform their work accordingly.

Alaska District: Mr. George Benesch, District Electrical Engineer and former District Safety Engineer, was the principal speaker at the August meeting of the Southeastern Alaska Federal Safety Council. Mr. Benesch presented a proposal for an Interagency Safety Training Program.

PROTECTIVE FEATURES FOR SIPHONS TUNNELS, AND CHECKS

The following is abstracted from Design Standards No. 3 - Canals and Related Structures.

SIPHONS

Protective Features

5.5B. The inlets of siphons (Classes A, B, and C exposure) over 30 inches in diameter shall be protected with a 42-inch-high guardrail across the headwall and extending the length of the transition on both sides of the canal or lateral. The guardrails shall be constructed of pipe, cable, or chain, or a combination of these materials, supported on timber or pipe supports. A similar guardrail shall be installed at the outlet of siphons classed as A or B exposure.

Siphons over 30 inches in diameter classified as Class A exposure shall be protected with a guardrail as described above, supplemented by a pipe rack with approximately 9-inch clear spacing on a 3:1 or flatter slope; or protected by a 6-foot-high chain-link fence supported by steel posts set in concrete with a safety screen suspended across the canal at the upstream end of the transition. (Refer to Drawing No. 222-D-12744, Siphon and Tunnel Inlets Safety Screens, and Drawing No. 214-D-15471, Alternate Chain-link-type Fence in Chapter 3, Safety Design Standards.)

TUNNELS

Protective Features

5.14. The protective features discussed in above Subparagraph 5.5B for siphons apply also to tunnels.

CHECKS

Protective Features

5.15D. A 2-foot minimum width platform can be used if the height above the downstream check floor is less than 3.5 feet, but if it is 3.5 feet or more, the minimum platform width should be 3 feet. A downstream guardrail is required on the platform for heights above the floor of 3.5 feet or over, and both an upstream and a downstream guardrail are required if the height is 5 feet or more. For additional safety provision requirements, see Chapter 3, Safety Design Standards, of Design Standards No. 1.

DEGREES OF EXPOSURE

In general, the amount of protection provided is based on the degree of exposure. The General Design Standards have defined the three degrees of exposure as follows:

Class A Exposure. Hazardous locations and structure sites readily accessible to the public from an adjacent or nearby city or school subject to numerous and frequent visits by the public.

Class B Exposure. Hazardous locations and structure sites removed from any population concentration, but subject to infrequent visits by the public from nearby farms or from a public highway.

Class C Exposure. Hazardous locations and structure sites far removed from any dwelling, which would only be visited by operating personnel, an occasional sportsman, or domestic animals.

* * * * *

HOW TO CONTROL EPOXY DERMATITIS

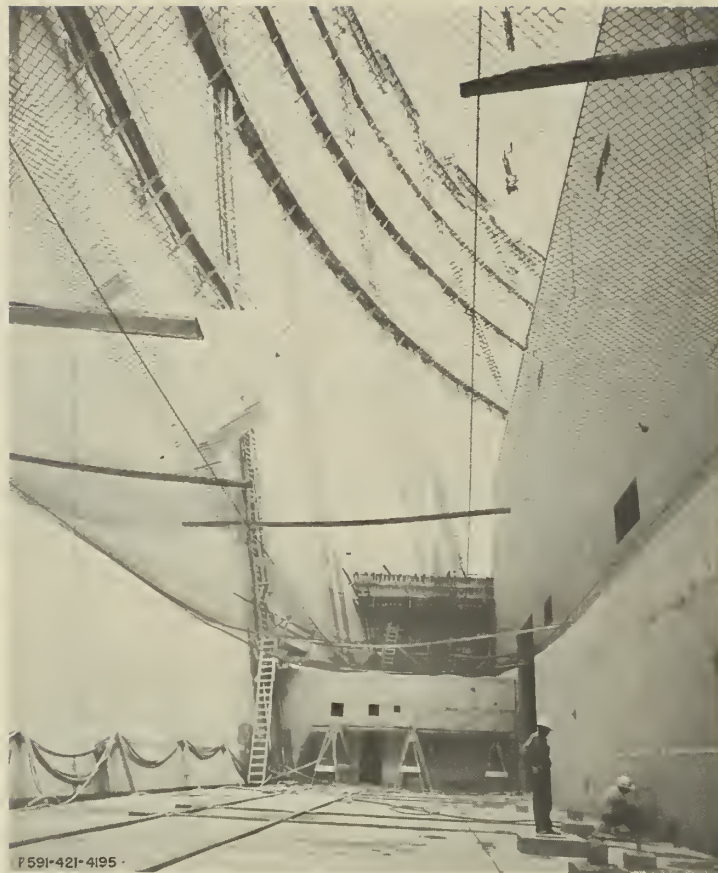
1. All supervisors and workmen should be instructed thoroughly about the hazards of these operations and the importance of avoiding contact.
2. The mixing, molding, curing, and tooling of the resins should be done in an isolated area of the plant, to avoid contamination of other areas and employees.
3. Batch mixing of the resin and hardener should be done under a ventilated hood to control the escape of vapors. Only a few workers should be permitted to do the batch mixing.
4. During molding operations, skin contact can be avoided by wearing protective sleeves and cotton-lined rubber gloves. Clean uniforms should be furnished and changed each day if necessary.
5. Acetone or related solvents are not to be used to cleanse the skin.
6. Tables, machinery, tools, floors, walls, and windows must be kept free of the fiberglass spicules and resinous dusts. The tables can be kept clean by using disposable heavy paper.
7. Cleanup rags should be replaced by disposable paper towels.
8. Grinding, sawing, drilling, or polishing the molded laminates should be done under ventilated hoods which remove all dusts from the breathing area and minimize the problem of skin contact.

9. Accidental spills of the resin or catalyst should be washed from the sites as soon as possible by using mild soaps in warm water dispensed at conveniently located wash stations.

10. Neutral or acid soaps should be used in preference to alkaline, powdered, or abrasive cleaning agents.

11. Water-soluble skin-protective gels which are neutral in their pH provide some help in protecting against the action of the solvents.

From Safety Engineering - September 1962



FLAMING GORGE UNIT - COLORADO RIVER STORAGE PROJECT

View of the transformer deck between Powerhouse and Dam covered over by chain-link fencing for the protection of employees who have to work in this area during construction.

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: Government

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH... AUGUST 31, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	239	43,976	322,544						0.0	0.0		0	0	
Denver Office & Laboratories	1,439	264,776	1,937,208		1			26	0.5	1.1		14	3,629	
Alaska District	41	6,012	41,709	1	1		4	4	166.3	24.0	66.0	665	96	550
REGION 1														
Boise Regional Office	170	30,293	201,340						0.0	8.9		0	15	
Central Snake Projects	51	8,948	61,565		1			1	16.2	50.8		16	508	
Chief Joseph Dam Project	41	6,810	44,959						0.0	0.0		0	0	
Coeur d'Alene Project	8	1,480	6,532						0.0	0.0		0	--	
Columbia Basin Project	878	161,552	1,199,496	1	10		100	137	6.2	8.3	14.5	619	114	101
Crooked River Project	0	0	3,150						0.0	0.0		0	0	
Bumgar Horse Project	56	9,704	74,857	1	2		11	31	103.0	26.7	0.0	1,134	414	0
Lower Columbia Development Office	42	6,864	49,220						0.0	--	--	0	--	
Minidoka Project	150	21,564	193,681	1	4		7	18	46.4	20.6	4.7	325	93	9
Rogue Project	11	2,229	37,141						0.0	0.0		0	0	
Snake River Development Office	48	7,329	59,205		1			600	16.9	--	--	10,134	--	
The Dalles Project Office	32	5,100	42,290						0.0	--	--	0	--	
Upper Columbia Development Office	40	6,538	46,752						0.0	--	--	0	--	
Vale Project	22	3,773	22,391						0.0	0.0		0	0	
Yakima Project	30	4,968	35,532		1			3	28.1	20.5		84	1,294	
Totals and Averages	1,579	277,219	2,078,181	3	19		118	790	10.8	9.1	11.9	426	380	104
REGION 2														
Sacramento Regional Office	658	121,072	833,888	1	6		1	25	8.3	7.2	4.1	8	30	64
Folsom Field Division	69	12,775	94,965						0.0	0.0		0	0	
Fresno Field Division	152	27,968	208,352		2			28	9.6	9.6		134	1,592	
Shasta Field Division	119	21,896	161,375		1			96	6.2	17.6		595	176	
Tracy Field Division	187	35,097	251,879		3			87	11.9	3.8		345	84	
Distribution System Projects CVP	29	2,208	39,616						0.0	0.0		0	0	
El Dorado Projects CVP	47	8,648	63,776						0.0	14.3		0	43	
Red Bluff Office CVP	118	21,712	108,642						0.0	--	--	0	--	
San Luis Unit CVP	231	42,504	264,758						0.0	14.8		0	30	
Trinity River Division CVP	310	50,840	395,788	1	1	1	6,000	6,000	2.2	9.8	118.017	15,160	133	
Klamath Project	40	7,504	58,741						0.0	15.3		0	259	
Lahontan Basin Project	57	10,488	75,776						0.0	0.0		0	0	
Totals and Averages	2,017	362,712	2,557,556	2	13	1	6,001	6,236	5.5	5.1	7.2	16,545	2,438	227
REGION 3														
Boulder Regional Office	128	23,552	174,232						0.0	0.0		0	0	
Boulder Canyon Project	161	28,524	221,153		3			89	13.6	31.2		40	508	
Colorado River FW & LS	89	14,220	96,890		2			7	20.6	22.6		72	475	
Parker-Davis Project	277	52,254	380,919		1			4	2.6	13.1		11	220	
Phoenix Development Office	62	11,408	76,443		1			1	13.1	--		13	--	
Yuma Projects Office	149	30,135	186,237		2			5	10.7	45.5		27	370	
Southern California Development	2	368	368						0.0	--		0	--	
Totals and Averages	868	160,470	1,136,242		9			106	7.9	20.1		93	279	
REGION 4														
Salt Lake Regional Office	327	53,082	490,863						0.0	0.0		0	0	
Emery County Project	28	4,766	21,919						0.0	--	--	0	--	
Central Utah Projects Office	165	28,395	215,388		3			233	13.9	9.6		1,082	53	
Curecanti Unit CRSP	76	15,122	97,925		1	1		6,000	10.2	31.9		61,271	32	
Flaming Gorge Unit CRSP	171	39,644	196,832	1	1		270	270	5.1	0.0	6,811	1,372	0	
Glen Canyon Unit CRSP	350	57,500	460,576		3			782	6.5	4.6		1,658	67	
Navajo Unit CRSP	51	11,018	88,716		1			10	11.3	0.0		113	0	
Transmission System Office CRSP	81	14,720	118,664						0.0	0.0		0	0	
Durango Projects Office	97	17,825	127,864	1	2		4	12	56.1	15.6	0.0	224	94	0
Grand Junction Office	130	20,142	182,194		2			79	11.0	4.5		434	22	
Logan Development Office	16	2,784	18,930						0.0	0.0		0	0	
Seedskadee Project	90	15,605	116,269		1			45	8.6	0.0		387	0	
Upper Green River Project	28	4,714	38,906						0.0	0.0		0	0	
Weber Basin Project	217	39,928	254,076						0.0	9.0		0	280	
Totals and Averages	1,827	325,245	2,429,122	2	14	1	274	7,431	6.1	5.8	3.8	842	3,059	52
REGION 5														
Amazillo Regional Office	104	16,741	141,326						0.0	6.9		0	14	
Albuquerque Development Office	27	4,876	26,345						0.0	--	--	0	--	
Austin Development Office	80	10,916	89,748						0.0	10.9		0	372	
Canadian River Project	125	19,996	142,141						0.0	0.0		0	0	
Lower Rio Grande Rehab. Project	58	10,776	86,620						0.0	10.6		0	42	
Middle Rio Grande Project	242	38,262	355,009		4			36	11.3	18.4		101	197	
Norman Project Office	73	12,255	58,246						0.0	--	--	0	--	
Oklahoma City Development Office	25	3,794	36,696						0.0	0.0		0	0	
Rio Grande Project	291	60,755	410,309		4			24	9.7	22.6		58	399	
San Angelo Project	81	21,211	130,623		2			99	15.3	6.4		758	6	
Shasta Basin Project	15	2,295	48,028						0.0	0.0		0	0	
Wichita Project	55	14,338	59,958		1			1	16.7	0.0		17	0	
Totals and Averages	1,176	216,215	1,595,049		11			160	6.9	14.1		101	190	
REGION 6														
Billings Regional Office	239	38,740	293,734		1			1	3.4	3.8		3	161	
Canyon Ferry Project	20	3,067	24,811						0.0	0.0		0	0	
East Bench Project	75	13,286	96,993						0.0	0.0		0	0	
Fort Peck Project	37	7,453	43,865						0.0	43.9		0	658	
Missouri-Osage Projects Office	268	49,761	350,379	1	3		6	248	8.6	7.6		121	708	45
Missouri-Souris Projects Office	145	35,065	188,670		1			8	5.3	5.1		32	31	
Power System Operations Office	39	9,360	54,400						0.0	0.0		0	0	
Riverton Project	31	5,105	35,863						0.0	0.0		0	0	
Upper Missouri Projects Office	110	18,842	135,045		3			28	22.2	17.6		287	220	
Yellowtail Project Office	126	29,415	145,061	1	2		21	24	34.0	13.8	0.0	714	165	0
Totals and Averages	1,110	210,098	1,373,782	2	10		27	307	9.5	7.3	6.7	129	224	96
REGION 7														
Denver Regional Office	163	29,992	219,136						0.0	0.0		0	0	
Denver Development Office	35	5,408	40,392						0.0	0.0		0	0	
Kansas River Projects	359	67,000	464,844		1			8	2.2	6.7		17	245	
Nebraska-Lower Platte Projects	343	54,880	431,840						0.0	16.9		0	101	
North Platte River Projects	319	51,040	399,760						0.0	2.4		0	0	
South Platte River Projects	178	32,752	237,170		1			14	4.2	4.3		59	9	
Totals and Averages	1,397	241,072	1,793,142		2			22	1.1	6.6		12	89	
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	11,693	2,107,795	15,252,535	10	80	2	6,424	15,084	4.7	5.2	8.3	3,048	989	548
TOTALS THIS YEAR (1962)	10,472	2,258,640	17,933,142	162	162	1		9,076	7.6	7.6		427		

* FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: Contractor

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH August 31, 1962

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL **	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	54	5,993	56,659						0.0	0.0		0	0	
Columbia Basin Project	122	11,847	153,977		1			3	6.5	6.7		19	47	
Crooked River Project	0	0	240						0.0	0.0		0	0	
Hungry Horse Project	0	553	2,437						0.0	0.0		0	0	
Minidoka	0	0	6,134						0.0	0.0		0	0	
Rogue Project	0	0	31,451						0.0	30.1		0	965	
Vale Project	159	17,063	47,720		2			27	41.9	--		566	--	
Yakima Project	0	0	9,672						0.0	0.0		0	0	
Totals and Averages	344	35,456	308,290		3			30	9.7	10.2		97	262	
REGION 2														
Sacramento Regional Office	0	0	1,035						0.0	--		0	--	
Distribution System Projects Office	2	2	89,324		4			99	44.8	62.9		1,108	1,446	
El Dorado Project Office CVP	275	48,896	138,809		9			85	64.8	67.8		612	587	
Red Bluff Office CVP	221	40,664	106,573	1	4		9	149	36.8	--	221	1,372	--	
San Luis Unit CVP	20	612	2,778						0.0	--		0	--	
Trinity River Division CVP	1,038	174,563	949,128	4	43		377	1,053	22.9	45.3	44.4	2,160	1,109	4,842
Klamath Project	28	5,414	31,606						0.0	0.0		0	0	
Lahontan Basin Project	63	15,375	33,147						0.0	108.2		0	1,474	
Tracy Field Division	15	1,992	3,224						0.0	702.7		0	7,027	
Folsom Field Division	34	848	848						0.0	--		0	--	
Totals and Averages	1,696	288,375	1,358,472	5	60		386	1,386	17.3	44.2	48.4	1,339	1,020	4,377
REGION 3														
Boulder Canyon Project	0	0	1,626						0.0	50.4		0	2,770	
Colorado River FW & IS	56	7,615	52,816						0.0	0.0		0	0	
Parker-Davis Project	19	2,881	4,974						0.0	0.0		0	0	
Phoenix Development Office	0	0	1,933						0.0	--		0	--	
Yuma Projects	32	6,865	57,501		1			26	17.4	16.6		452	432	
Totals and Averages	107	17,361	118,850		1			26	8.4	23.4		219	946	
REGION 4														
Central Utah Projects Office	49	7,435	49,035	1	3		56	123	134.5	61.2	41.0	7,532	2,508	230
Curecanti Unit CRSP	312	62,745	211,734	1	3		14	27	15.9	14.2	--	223	128	--
Flaming Gorge Unit CRSP	1,114	236,500	1,086,347	2	8	1	210	6,394	8.5	7.4	5.8	888	5,886	465
Glen Canyon Unit CRSP	1,726	267,617	2,130,183	9	43		265	1,824	33.6	20.2	19.5	989	856	7,328
Navajo Unit CRSP	209	44,160	504,809		8			232	15.8	11.2		460	126	
Emery County Project	7	367	1,756						0.0	--		0	--	
Florida Project	198	42,853	236,455		7			174	29.6	87.9		736	967	
Grand Junction Office	124	35,737	224,452	1	5		5	61	28.0	25.3	140	361	109	
Seedsadee Project Office	362	83,876	337,881		3			72	8.9	0.0		213	0	
Weber Basin Projects	386	67,343	239,288	4	10	1	17	6,070	59.4	41.8	6.1	252	25,367	43
Upper Green River Project	12	1,248	1,248						0.0	--		0	--	
Totals and Averages	4,499	850,061	5,023,188	18	90	2	567	14,997	21.2	17.9	17.0	667	2,986	4,425
REGION 5														
Amarillo Regional Office	3	200	934						0.0	96.2		0	192	
Albuquerque Development Office	3	582	859						0.0	--		0	--	
Canadian River Project	250	46,661	188,439		5			91	26.5	0.0		483	0	
Lower Rio Grande Rehab. Project	325	30,493	168,582	4	7		48	51	41.5	8.7	1,574	302	52,242	
Middle Rio Grande Project	3	96	19,586						0.0	0.0		0	0	
San Angelo Project	384	77,839	768,384	1	22	2	54	12,345	28.6	53.1	694	16,066	37,546	
Washita Basin Project	0	0	104,613		6			35	57.4	35.6		335	516	
Wichita Project	152	31,274	62,782						0.0	--		0	--	
Norman Project	24	3,682	3,682						0.0	--		0	--	
Totals and Averages	1,144	190,827	1,317,861	5	40	2	102	12,522	26.2	30.4	42.8	535	9,502	29,504
REGION 6														
Billings Regional Office	5	304	644						0.0	--		0	--	
East Bench Project Office	250	24,269	192,067		9			154	46.9	22.4		802	549	
Missouri-Osage Projects Office	386	65,046	276,060	2	8	1	6,005	6,026	30.7	68.2	92,319	21,829	46,364	
Missouri-Souris Projects Office	149	23,740	82,190		3			160	36.5	19.6		1,247	392	
Riverton Project	16	1,455	20,550						0.0	0.0		0	0	
Upper Missouri Projects	13	1,592	4,256						0.0	0.0		0	0	
Yellowtail Project	489	89,526	560,038	2	8		103	263	22.3	14.3	0.0	1,151	470	0
Totals and Averages	1,308	205,932	1,135,805	4	28	1	6,108	6,603	19.4	24.7	24.9	29,660	5,813	10,385
REGION 7														
Kansas River Projects	297	60,409	365,911	2	4		1,803	2,044	33.1	10.9	8.3	29,847	5,586	16,587
Nebraska-Lower Platte Projects	550	110,562	564,149	3	9		12	63	27.1	16.0	8.3	109	112	569
North Platte River Projects	9	700	11,533		1			12	86.7	87.9		1,040	1,516	
South Platte River Projects	18	1,662	7,898						0.0	0.0		0	0	
Totals and Averages	874	173,333	949,491	5	14		1,815	2,119	28.8	14.7	12.3	10,471	2,232	7,107
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	9,372	1,761,365	10,211,957	37	236	5	8,978	37,683	21.0	23.1	25.7	5,097	3,690	7,820
	7,438		15,215,753		367	12		90,162		24.1			5,926	

*FATALITIES INCLUDED IN TOTAL DISABLING





614.905
SAR

SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSIONER
AND CHIEF ENGINEER

FOR REVIEW BY THE
REVIEW TO 1962
REVIEW TO 1962

September 1962

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Front Cover Photo: D-8 Cat used on clearing operations with safety cage enclosed with mesh steel wire.
Reclamation photo P-763-527-249.

SAFETY RECORD is published monthly by the Office of
Assistant Commissioner and Chief
Engineer, Bureau of Reclamation,
Denver, Colorado, in the interest
of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - September 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle Accident rate</u>
Region 7	1.5	15	0.2	3.9
Region 4	5.2	2,734	142.2	2.1
Region 2	6.0	2,214	132.8	4.6
Region 5	6.7	91	6.1	2.1
Region 6	7.8	219	17.1	3.8
Region 1	8.2	354	29.0	1.7
Region 3	9.4	119	11.2	5.1
Alaska District	20.8	146	30.4	22.1
Totals to Date (1962)	5.3	896	47.5	3.4
Totals Last Year	7.6	427	32.5	4.6

*Injury index is equal to frequency rate times severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - September 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	11.0	110	0
Region 3	15.1	211	0
Region 7	15.8	1,967	0
Region 4	18.0	3,672	3
Region 6	20.4	4,821	1
Region 5	29.2	12,329	3
Region 2	39.9	941	0
Totals to Date (1962)	22.3	4,199	7
Totals Last Year	24.1	5,926	12

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
September 30, 1962

A. ACCIDENT CLASSIFICATION

<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>	<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>
1	Railroad	1	6,000	14	Falls of Persons	24	7,356
3	Water Craft	1	135	16	Striking Against	2	14
5	Vehicles	3	22	17	Flying Particles	2	6
9	Electricity	1	45	18	Hand Tools	5	63
10	Flash Burns	1	4	19	Machinery	2	105
11	Dust-Chemicals	3	12	20	Not otherwise		
12	Handling Material	24	388		classified	15	399
13	Falling Objects	7	728		Totals	91	15,277

B. OPERATIONAL SUMMARY

<u>Operation</u>	<u>Man-Hours</u>	<u>No. of accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	3,901,771	5	753	1.3	193
Construction	4,391,645	20	12,786	4.6	2,911
Design	1,761,591	2	31	1.1	18
Investigation	2,210,293	17	954	7.7	432
O&M Irrigation	2,140,995	26	243	12.1	113
O&M-Power	2,640,032	21	510	8.0	193
Totals	17,046,327	91	15,277	5.3	896

C. SERIOUS ACCIDENTS (Personal Injury)

<u>Date</u>	<u>Occupation</u>	<u>Description of accident</u>	<u>Days lost</u>
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3- 3-62	Inspector	Raising safety strap, fell from pole	180
4- 9-62	Electrician	Fell from bushing on oil circuit breaker	96
5- 9-62	Drill Helper	Drill drive hammer struck hand	600
5-14-62	Surveying Aide	Fell from bridge pier into river, drowned	6,000
6-14-62	Engineer	Contacted powerline with drill pipe	45
6-19-62	Engineer	Caught hand in air propeller (boat)	135
8- 3-62	Inspector	Struck by agitator car in tunnel	6,000
8-31-62	Inspector	Struck by drifting concrete bucket	270

ACCIDENT REVIEW

Employer: Contractor

Activity: Augering anchor holes for transmission guy lines.

Accident Situation and Occurrence: A truck-mounted power auger was being used to dig anchor holes for transmission line guy wires. The truck had been spotted under an adjacent energized powerline. The operator then started to raise the mast of the power auger to a vertical position preparatory to digging a hole 4 feet from the energized line. The auger mast contacted the line and the operator was electrocuted through his contact with the machine controls and the ground.

Cause Determination: The primary cause was spotting the truck under the energized powerline and raising the auger mast without having safe clearance from the line. There was no grounding chain provided on the machine. The vertical height of the conductor measured 18.5 feet and the mast including the auger bit was 21 feet long. A minimum clear safe distance of 6 feet is required when operating booms in the vicinity of energized powerlines and then only under controlled conditions. Hand digging of anchor holes should be employed where the minimum 6-foot clearance cannot be obtained when using machines.

HANDLING REINFORCING STEEL

Employer: Contractor

Activity: Carrying reinforcing steel.

Accident Situation and Occurrence: Employee slipped while carrying reinforcing steel and injured back. Time lost was estimated at 22 days. Work area had loose material on an inclined grade. Employee should have obtained help to carry the steel bars and work area made safe for footing.

FRONT END LOADER

Employer: Contractor

Activity: Operating front end loader.

Accident Situation and Occurrence: Employee was operating a front end loader backward on a downgrade haul road from a rock quarry. The machine went out of control and rolled onto its side. The operator received fatal head injuries.

Cause Determination: Too high speed was a factor in this accident. Also faulty brakes, as the hydraulic brake line to the right rear wheel was found disconnected. A preventative maintenance program must be followed to insure that all equipment be given a daily check for repair of faulty brakes, lines, cylinders, etc.

LOADING TRUCKS

Employer: Contractor

Activity: Operating trucks under conveyor loader.

Accident Situation and Occurrence: Employee was operating a bottom dump truck under a conveyor loader when a following vehicle came into the pit and bumped into the rear of his truck. Estimated lost time for the back injury was 7 days. Equipment should be kept properly spaced to prevent congestion of equipment and tailgating.

CEMENT BURNS

Employer: Contractor

Activity: Vibrating concrete.

Accident Situation and Occurrence: Employee was operating vibrator inside form on concrete pour and his clothing became saturated with wet concrete. Cement burns to both legs caused 8 days of lost time. Employee neglected to wear protective clothing (boots) provided for his use.

CUTTING TREES

Employer: Government

Activity: Cutting down trees.

Accident Situation and Occurrence: Employee was engaged in cutting down a tree located on the canal bank. A loose limb fell from the tree striking him on the head. He received head lacerations and the time lost was 3 days. The employee was not wearing a hard hat. This was definitely an operation that required the use of hard hats and the foreman must enforce this regulation.

DRILLING CONCRETE

Employer: Government

Activity: Drilling hole in concrete wall.

Accident Situation and Occurrence: Employee was using an impact drill to make a 2-inch hole in a concrete wall. The drill bit hung up causing him to lose control of the drill. It rotated rapidly striking his left arm. He received a fracture to his arm and the lost time was 32 days. It was determined that two men be assigned to use the drill in the future.

CLIMBING POLE

Employer: Government

Activity: Climbing power pole.

Accident Situation and Occurrence: A lineman had climbed a wood pole while working on a powerline. His climbing hooks cut out of the pole and he fell 15 feet to the ground landing on his heels. The heel injury resulted in 10 days of lost time. Linemen must constantly guard against the hazards of pole climbing and make sure that their hooks are firmly engaged in the pole.

WATER SAFETY

Niobrara-Lower Platte Projects: Projects Safety Officer Lauren Simon presented talks on water safety to the Howard County Agricultural Extension Council and St. Paul Lion's Club this month. The text of the material covered the recent organization of the Sherman-Howard County Water Safety Council. Support of these groups was solicited to help stimulate community interest and action in water safety.

WATER SKI BELTS

Lieutenant R. E. Frusher of the Oklahoma Highway Patrol is quoted in a Coast Guard liaison letter to State Boating Law Administrator: "Ski belts . . . In the last two years we have had 7 people in Oklahoma drown while wearing ski belts, and not one person drown in three years while wearing an approved life jacket.

"We had three men thrown out of ski belts and drown before they could recover the belts. These belts were probably being worn loosely around the waist and apparently slipped off after the victims fell. Two belts broke while the victims were skiing; one was a new belt of the styrofoam form-fitting type. Another victim was wearing a belt that had been left in the boat next to a battery and the acid ate through the material.

"Two other victims were knocked out and drowned face down in the water with the belts on. One had struck a dock and the other had apparently struck his ski and the boat failed to return in time to prevent the drowning.

"I can't argue with people who say that approved life jackets are uncomfortable and hard to wear, but I can show them that in three years we have not had one person drown while wearing an approved life jacket."

--Public Safety Newsletter - October 1962

Billings Regional Office: The drowning of twin 3-year old boys in a private company-owned ditch in Billings prompted the Mayor to appoint a committee to study the problem in the light of corrective measures. Both the Corps of Engineers and the Bureau were invited to participate. Additional meetings will be scheduled and Mr. Hayes has been included on the Mayor's committee. Three children have met similar fate in Billings thus far this year. Thirty such drownings have occurred within the past 10 years. Mr. Hayes reported upon the initial meeting and a full discussion ensued in regard to the local problem as it relates to the Bureau Water Safety Program.

FROM THE FIELD

Durango Projects: The placement of earthfill at Lemon Dam moved into high gear this month. By invitation from Colorado Constructors, Inc., the Project Safety Engineer held a general safety meeting with all personnel engaged in this activity. Eight primary sources of injury were outlined with the safety measures to be adhered to for the prevention of accidents.

1. Loaded equipment shall have the right-of-way.
2. Two-way traffic shall keep to right unless posted otherwise.
3. Machines shall be driven slowly off main road to prevent tilting.
4. Untended equipment shall not be left with motor running and when in operation only one person shall be aboard.
5. Keep deck plates or steps free of ice, mud, or grease; also brakes, lights, etc., shall be kept at peak performance.
6. Spotters and others on foot working on the fill shall wear luminous belts or jackets.
7. Haul roads shall be sprinkled for dust abatement and graded for safer travel.
8. All injuries shall be reported immediately to the foreman.

San Angelo Project: Field supervisors reported holding twenty-three 5-minute safety meetings during the month. Mr. John Vail returned to the San Angelo Project on September 3, 1962, as Safety Engineer for H. B. Zachry Company. Mr. Vail and Project Safety Officer Loyd Crow met on September 4, and discussed safety problems of the project. Mr. Vail stated that H. B. Zachry Company's new 12-point safety program would be enforced on the project.

Yellowtail Project: Mr. Rooney reported that "School Crosswalks" had been painted at two places on our access road between the Fort Smith and Park Dale trailer courts. It was also pointed out that a trail was available to permit school children to get to school without walking on the access road.

Central Utah Projects: A Government trapper from the U. S. Fish and Wildlife Service met with Bureau personnel at a toolbox safety meeting in the Mosida area. The trapper explained precautions to be taken by the individual when working in the vicinity of coyote

guns to avoid exploding the guns and causing injury. Other topics discussed at the safety meetings were the importance of wearing hard hats around drilling equipment, proper driving in the vicinity of school buses and children, and the use of safety glasses.

Trinity River Division: Bureau personnel held 44 weekly safety meetings during the month. Safe driving, working around heavy equipment, grounding of electric tools, scaffolding and ladders, fire hazards, hard hats, and identification of poison oak and poison ivy were some of the items discussed at these meetings. --Eight joint safety policy committee meetings were held with the contractors' personnel during this period.

Shasta Field Division: Inspection of annual main unit maintenance activities at Keswick continued during September. On-the-spot safety discussions were carried out on certain phases of this work in addition to formal discussions at tailgate meetings. Particular attention was given to the operations requiring crews to work on top of the transformers.

South Platte River Projects: About 45 minutes were spent at each meeting on a prepared written test on Bureau of Mines First Aid. The test was composed of multiple choice questions and true-false questions. After the test, the Safety Officer discussed the correct answers. The opinions expressed by those participating indicated that the test and discussion constituted a good review of U.S. B. M. First Aid. Scores also indicated that the employees have a good knowledge of the subject.

Norman Project: Activities for the prime contractor, Cosmo Construction Company, consisted primarily of clearing operations. Safetywise, the contractor erected signs prohibiting entrance by unauthorized personnel into the construction area. The Safety Inspector and the Safety Engineer for the Bureau attended an Explosives School taught by the 61st Ordnance Detachment (Explosives Disposal), Ft. Sill, Oklahoma, and sponsored by the Shawnee, Oklahoma Fire Department. The school was held on September 7 and 8.

Region 7 Office: Messrs. J. L. Ogilvie, Assistant Director and H. E. Stradley, Regional Safety Officer, on September 6 assisted in the presentation of regional safety citations and awards at the Boysen Camp to Bureau employees of the Big Horn Area Power Division. Forty-two employees were presented awards for having completed 1,000 consecutive days of work without suffering a disabling injury. --On September 27, Messrs. James H. Knights, representing the Regional Director and Joe F. Brown, Regional Safety Officer, visited the Cheyenne Substation. They assisted in

the presentation of safety awards and citations to Bureau employees for having completed 2,000 consecutive days of exposure to work hazards without having a disabling injury.

Columbia Basin Project: Discussed were the steps taken to insure safe and accident-free operation of the crew engaged in percolation tests. A preplan was worked out with the help of the Project Safety Engineer. The crew was made up of young men just out of high school or in first year of college. They had had very little work experience and were unskilled in the operation of the equipment. They were carefully screened, given road tests by examiners, and were given safety indoctrination at a prework meeting. Tool-box meetings were held several times a week. As a result, there were no accidents or injuries during the course of the summer's work.

VEHICLE SAFETY

NEW MEXICO

New Mexico has joined the list of states requiring seat belts in state-owned vehicles. Governor Edwin L. Mechem has issued a memorandum to all state agencies directing the installation and use of front seat belts in all vehicles presently used and under their supervision, regardless of the vehicles' age or condition.

SPEED

"Speed too fast" was a contributing factor in 33 percent of all fatal accidents in 1961; it was a factor in 26 percent of urban accidents and 36 percent of the rural accidents. Of 32,500 fatal accidents which occurred during the year, the above percentages indicate that speed was a factor in 11,000 of these -- 2,500 in urban areas and 8,500 in rural areas.

While speed is the principal circumstance in fatal accidents and also in rural nonfatal accidents, failure to yield right-of-way heads the list of improper driving practices in injury and property damage accidents in urban areas. Following too closely is next in importance in nonfatal accidents in both urban and rural areas. Disregarding signals in urban areas and driving left of the center-line in rural areas are other important factors.

STATE REPORTS OF DRINKING AND ACCIDENTS

Connecticut: Among 248 fatal accidents which occurred in 1961, 40 percent involved a drinking driver. This was lower than the 45 percent recorded in 1960, but substantially above percentages of 31 in 1958, and 26 in 1957.

Delaware: Thirty-nine percent of all fatal accidents in 1961 involved a driver who had been drinking. Seven of the accidents involved adult pedestrians, of whom 3 had been drinking.

Maryland: Among 115 drivers in fatal accidents in 1960, 62 percent had some alcohol in their blood; 40 percent had 0.15 or more.

--Traffic Safety - October 1962

WAYS TO REDUCE RAILROAD GRADE CROSSING HAZARDS

L. E. Reed, a director of the Private Carrier Conference of the American Trucking Associations and motor vehicle manager of

the Mobil Oil Company, outlined methods through which grade crossing hazards could be reduced at a recent Interstate Commerce Committee hearing. Among Mr. Reed's recommendations were: Placing warning devices sufficiently in advance, installing automatic signals, limiting the speed of trains, establishing standards for warning whistles and bells, lighting crossing and trains, training railroad guards thoroughly, and eliminating as many grade crossings as feasible where view of road or rail vehicle is impeded.

--Fleet Safety Newsletter - September 1962

BRICKBAT WITH A TWIST

We deplore the senseless speeding that recently caused a car containing two young men to skid 250 feet on a sharp curve, change lanes, skid another 90 feet back into its own lane, skid 50 feet more, flip over, sail 15 feet through the air, slide upside down for 49 feet, carom off a stone wall and flip back onto its wheels. Yes, the car was a mess; but the occupants received only minor bruises. Both were wearing safety seat belts.

--Safety Engineering - October 1962

PLASTIC CANS

A warning has been issued by The Society of the Plastics Industry that most plastic "Jerry" cans (shaped like those GI metal gasoline cans during World War II) are not safe for storing gasoline. Most of these plastic cans are suitable only for beverages and other harmless liquids. At temperatures from about 145 degrees and up, easily reached in the trunk of a car or the covered bow of an outboard boat on a hot day, gasoline will disintegrate the polyethylene. Warn your employees about this danger and that they should not be deceived by the shape of plastic cans. The safest way to carry spare gasoline and to store it is in metal cans that are listed by Underwriters' Laboratories or Factory Mutual Laboratories.

--Safety Engineering - October 1962

RECLAMATION ANNOUNCES SEAT BELT POLICY

The Commissioner, by letter of October 10, announced the policy on the installation and use of seat belts in Bureau-owned or leased motor vehicles.

The regulations provide for installing at least two seat belts in the front seat of all passenger vehicles (except buses), carryalls, sedan deliveries, 1/2- and 3/4-ton pickup trucks, and panel trucks which are owned and operated by the Bureau of Reclamation. Passenger cars with rear seats, if regularly used to transport more than two people including the driver, will have rear seats equipped with seat belts.

Operating offices will purchase belts to equip Bureau-operated vehicles now under "permanent" or "semi-permanent" lease from General Services Administration. GSA will install eyebolt attachments at no cost in those pool vehicles on assignment to the Bureau. Factory installation of eyebolts will be provided in Federal vehicles purchased after September 1, 1962.

The seat belts purchased are to comply with Federal Specification JJ-B-185a, and the installation in accordance with Federal Standard No. 119a.

Bureau offices will initiate an educational program on the necessity for use of seat belts, which will be mandatory after January 1, 1963, in Bureau-owned or operated vehicles.

SAFETY REQUIREMENTS FOR CONSTRUCTION BY CONTRACT

The new and extensively revised issue of the Safety Requirements for Construction by Contract (Third Edition, September 1962) has been printed and copies sent to the field offices. Additional copies can be obtained from the Denver Office, Code D-841.

This manual contains current safety standards and instructions for maintaining safe operations on construction work. Reclamation field personnel responsible for the administration of contracts will need to review the new manual in order to be familiar with the safety measures required on contract work under their supervision.

The Foreword and Section I - Purpose and Scope, from the new manual, are printed below.

FOREWORD

The Bureau of Reclamation has an obligation to provide for the safety of the men and women engaged in the construction of Reclamation facilities financed by public funds. In the administration of construction contracts, we are attempting to meet this obligation by placing equal emphasis upon the quality of the product, its timely completion, and upon performance of the work in a safe manner.

Safety Requirements for Construction by Contract were formulated and have been incorporated for many years in the contract specifications in order to insure that safe working conditions are maintained and safe practices followed on all Reclamation contract operations. Experience has proved conclusively that needless loss of life and property, a vital factor in the national economy, can be drastically reduced through application and conformance with sound safety standards. For example, thousands of lives are lost each year through failure to install a simple ground wire on electrical equipment; failure to provide protective clothing or equipment; unsafe operation of equipment; and lack of safety supervision and employee education. Improved accident prevention can be stimulated by knowing the safety standards applicable to each operation, and recognizing the economic advantage of their application.

This manual is dedicated to the promotion of safety and the reduction of accidents in the construction of Reclamation facilities. These safety requirements constitute a contractual obligation on the part of all contractors performing work for the Bureau of Reclamation. Further, it is an obligation of all Reclamation contract administration personnel to insure that these requirements are met on work under their supervision.

This third edition of Safety Requirements for Construction by Contract supersedes the second edition, dated November 1960.

(Sgd.) Grant Bloodgood
Assistant Commissioner
and Chief Engineer

Section I PURPOSE AND SCOPE

1-1. This manual establishes the health and safety requirements for construction by contract, and is applicable to all construction operations performed for the Bureau of Reclamation by its contractors and subcontractors.

1-2. The provisions of this manual are mandatory and applicable to all contractors and subcontractors who perform work for the Bureau of Reclamation, when the prime contract amount exceeds \$10,000.

1-3. The contractor shall at all times exercise reasonable precautions for the health and safety of his employees. In addition to the requirements of this manual, he shall comply with all applicable provisions of Federal, State, and municipal safety, health, and sanitation statutes and codes.

1-4. It is recommended that the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, be used as a guide in establishing safe practices for construction work.

1-5. In circumstances where literal application of a requirement to a specific job has impractical aspects, the Contracting Officer, or his authorized representative, is authorized to approve an adaptation which meets the intent of the requirement. Such change or adaptation shall be made in writing and apply solely to the specific job situation or circumstance.

1-6. If a contractor fails or refuses to comply promptly with the provisions of this manual, the Contracting Officer or his authorized representative shall notify the contractor in writing of any noncompliance and indicate to the contractor the action to be taken. The contractor shall, following receipt of such notice, immediately correct the conditions to which attention has been directed. Such notice, when served on the contractor or his representative(s) at the site of the work, shall be deemed sufficient.

In event the contractor fails or refuses to promptly comply with the written directive, the Contracting Officer or his authorized representative may issue an order to suspend all or any part of the work. When satisfactory corrective action is taken, an order to resume work will be issued. A contractor shall not be entitled to any extension of time, nor to any claim for damage or to excess costs by reason of either the directive or the suspension order.

1-7. Reference to this manual, including provision for compliance with the safety requirements of the manual, shall be included in the terms and conditions of all subcontracts.

* * * * *

Proclamation 3494
NATIONAL SAFETY COUNCIL FIFTIETH ANNIVERSARY YEAR
By the President of the United States of America
A Proclamation

WHEREAS October 1962 marks the beginning of the fiftieth anniversary observance of the founding of the National Safety Council; and

WHEREAS the Council has striven faithfully during this half century to develop and implement sound, effective programs directed toward the prevention of accidents of all kinds; and

WHEREAS there has been a notable and steady decline in the rates of accidental death and injury as a result of such national programs of the organized safety movement; and

WHEREAS this decline in accident rates demonstrates the value of nationwide safety activities as carried on under the leadership of the National Safety Council; and

WHEREAS the Council, as a guardian of the public interest, has proved its dedication to the safety and welfare of the Nation's citizens, as set forth in its Federal charter; and

WHEREAS the Congress, by Senate Joint Resolution 222, approved September 20, 1962, requested the President to issue a proclamation designating the period October 1962 through October 1963 as National Safety Council Fiftieth Anniversary Year;

NOW, THEREFORE, I, JOHN F. KENNEDY, President of the United States of America, do hereby designate the period October 1962 through October 1963 as National Safety Council Fiftieth Anniversary Year, in recognition of the role of the National Safety Council in our way of life; and I urge the Governors of the States, the Commonwealth of Puerto Rico, and other areas subject to the jurisdiction of the United States, and mayors of cities to issue similar proclamations.

I also ask the appropriate officials of the Federal, State, and local governments, as well as public and private organizations and the general public, to join in observance of this significant occasion, and to increase their efforts to reduce the number of accidents in homes, in industry, in public places, and on our streets and highways.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

DONE at the City of Washington this twentieth day of September
in the year of our Lord nineteen hundred and sixty-two,
(SEAL) and of the Independence of the United States of America
the one hundred and eighty-seventh.

John F. Kennedy

By the President:
Dean Rusk,
Secretary of State.

PUBLIC DROWNINGS

January 1, 1962 - September 30, 1962

1. Facilities Controlled and Operated by Bureau of Reclamation

Canals	- 19
Reservoirs	- 5
Total	- <u>24</u>

2. Facilities Operated by Other Agencies

Irrigation and Water Districts	- 22
State or County Agencies (Recreational)	- 35
Federal Agency	- 1
Total	- <u>58</u>

3. Summary of Total Drownings During Period

A. By Operating Agency

Bureau of Reclamation	- 24
Irrigation and Water Districts	- 22
State or County Agencies	- 35
Federal Agency	- 1
Total Drownings	- <u>82</u>

B. By Type of Facility

Canals	- 31
Reservoirs	- 51
Total	- <u>82</u>

4. Nature of Drownings

Swimming	- 35
Boating	- 7
Fishing	- 6
Fell into canal	- 8
Other	- 26
Total	- <u>82</u>

SAFETY AWARDS TO TREASURY, ARMY, AND FEDERAL POWER COMMISSION

Vice President Lyndon B. Johnson presented the President's Safety Award for 1961 to Secretary of the Treasury C. Douglas Dillon and Army Secretary Elvis J. Stahr, Jr., whose departments tied for top honors among agencies with more than 75,000 employees.

Mr. Johnson presented a Presidential award to Chairman Joseph C. Swidler of the Federal Power Commission, winner in the agency group with less than 10,000 employees.

Congratulating the winners, Labor Secretary Arthur Goldberg said that while some individual agencies have made commendable progress in preventing accidents, "the Federal Government as a whole has stood still, safetywise, for a decade or more." In this respect, he stated "it is not as good as a large segment of private industry."

In terms of civilian employment and number of disabling injuries, the Secretary said, 1960 was no different than 1951. Therefore, the 1960 frequency rate of 8.4 disabling injuries per million man-hours of employment "was exactly the same as it was in 1961." Since 1948, the frequency has hovered between 7.7 and 8.6.

"We have to step up our activities and continually improve existing safety programs and performance," Secretary Goldberg stated. As a practical suggestion, he said, "there should be a top level audit of every Federal safety program to see where we stand." Such self-examination, made by each agency, he added, "can hardly fail to point the way to better performance."

"Top management in Government does support accident prevention work," he said. The awards, in his words, "symbolize the keen interest and solid backing of the President and the Vice President."

--Safety Standards - September 1962

* * * * *

CARBON TET SEIZED

The FDA recently seized a quantity of carbon tetrachloride on charges that the containers failed to bear required warnings under the Federal Hazardous Substances Labeling Act. The bottles were labeled "Carbon Tetrachloride" and included the name and address of the packer, but not the word "Danger" and other required warnings and first-aid instructions. The containers also did not bear a label containing the word "poison" and the skull and crossbones.

--Safety News - October 1962

U. S. BUREAU OF MINES
AWARDS
CERTIFICATE OF HONOR

BUREAU EMPLOYEE

Mr. Lloyd G. Vanderheiden, Reclamation Lineman, South Platte River Projects, was presented with the U. S. Bureau of Mines Certificate of Honor, for saving the life of his neighbor S. G. Prescott by applying artificial respiration.

Mr. Prescott suffered a heart attack in the kitchen of his home. Mr. Vanderheiden, who was in his yard at the time, was called by Mr. Prescott's wife. He immediately started applying mouth-to-mouth respiration to Mr. Prescott and after approximately 5 minutes the victim was revived. The attending physician said that Mr. Vanderheiden's quick action saved his neighbor's life.

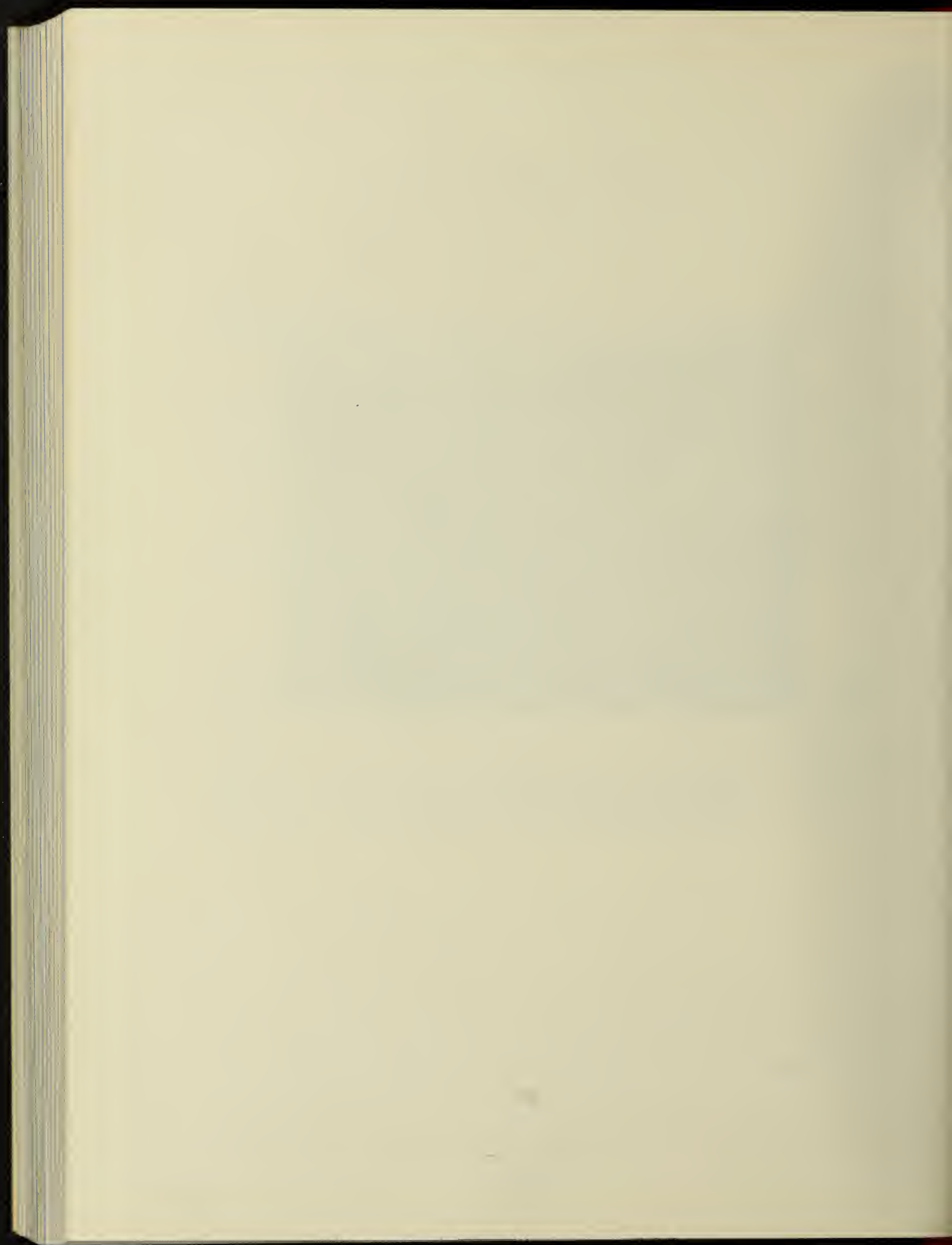
Mr. Vanderheiden gave the credit for knowing the resuscitation procedures to the Bureau of Mines First-aid course he received from Reclamation Instructor L. E. Meier.

CONTRACTOR EMPLOYEES

Messrs. Lyman McCall and Halzie Davis, employees of the Wasatch Line Construction Company, Flaming Gorge Unit, were presented with the U. S. Bureau of Mines Certificate of Honor for saving the life of a fellow employee, Llewelyn Thomas. Mr. Thomas was struck on the head by a transmission line crossarm and was knocked unconscious to the ground. McCall and Davis applied artificial respiration to the injured employee and his breathing was restored. The award was given them for saving a life by use of artificial respiration.



Causey Dam--Weber Basin Project-Utah.
Warning sign at the entrance to Causey
Dam construction area. P526-400-6782



DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 1962.. THROUGH.. September 30, 1962..

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	236	36,176	358,720								0.0		0	0
Denver Office and Laboratories	1,412	214,624	2,151,832	1				28		0.5	1.0	13	2,916	
Alaska District	40	6,278	47,987	1				7		20.8	76.1	146	2,189	
REGION 1														
Boise Regional Office	168	22,557	223,897							0.0	7.9		13	
Central Snake Project	51	7,731	69,296	1				1		14.4	45.9	14	459	
Chief Joseph Dam Project	43	6,318	51,277							0.0	0.0	0	0	
Coeur d'Alene Project	10	1,408	8,000							0.0	-	0	-	
Columbia Basin Project	847	135,520	1,335,016	1	11		5	142	7.4	8.2	13.0	37	106	90
Crooked River Project	0	0	3,150							0.0	0.0	0	0	
Hungry Horse Project	53	9,185	84,052	2				61		23.8	0.0	726	0	
Lower Columbia Development	42	5,517	54,737							0.0	-	0	-	
Minidoka Project	148	20,208	213,889	3				11		14.0	4.2	0	0	
Rogue Project	6	912	38,053					600		15.0	-	9,000	-	
Snake River Development	49	7,462	66,667	1						0.0	103.3	0	1,553	
The Dalles Project	32	4,592	46,882							0.0	-	0	-	
Upper Columbia Development	36	5,516	52,268							0.0	0.0	0	0	
Vale Project	20	4,266	26,657					3		25.1	18.5	75	1,166	
Yakima Project	30	4,263	29,795	1						8.2	11.1	21	359	95
Totals and Averages	1,335	235,455	2,313,636	1	19		5	818	4.2					
REGION 2														
Sacramento Regional Office	659	100,168	934,056	2	8		53	78	20.0	8.6	4.9	529	84	146
Folsom Field Division	65	10,689	105,654							0.0	0.0	0	0	
Fresno Field Division	151	22,952	231,304	2	4		20	48	87.1	17.3	8.6	871	208	1,423
Shasta Field Division	115	17,550	178,935	1				96		5.6	26.4	537	150	
Tracy Field Division	183	26,745	260,624	3				87		10.7	3.4	310	305	
Distribution System Projects	23	2,576	42,192							0.0	12.9	0	39	
El Dorado Projects	43	6,536	70,312							0.0	13.7	0	233	
Klamath Project	36	5,626	64,367							0.0	0.0	0	0	
Labontan Basin Project	53	8,056	83,832							0.0	-	0	-	
Red Bluff Office	110	16,720	125,352							0.0	-	0	-	
San Luis Unit	220	33,440	292,126							2.3	8.8	13,803	110	
Trinity River Division	256	38,912	434,700	1		1	73	6,000	13.7	6.0	7.6	250	2,214	260
Totals and Averages	1,914	291,980	2,849,536	4	17	1		6,309						
REGION 3														
Boulder Regional Office	128	19,456	193,688							0.0	0.0		0	0
Boulder Canyon Project	151	26,047	247,200	3				89		12.1	27.8	360	452	
Colorado River PMA	91	14,352	111,243	2				7		18.0	20.4	63	429	
Parker-Davis Project	264	46,409	427,328	3	4		46	50	64.6	9.4	13.9	991	117	254
Phoenix Development	60	9,120	85,563	1				1		11.7	-	12	-	
Southern California Development	3	456	824							0.0	-	0	-	
Yuma Projects	148	20,271	206,508	2				5		0.7	44.3	24	443	
Totals and Averages	865	136,117	1,272,359	3	12		46	152	22.0	9.4	19.4	338	119	287
REGION 4														
Salt Lake Regional Office	330	53,108	543,971							0.0	0.0		0	0
Beaver County Project	30	4,586	26,905							0.0	8.5	0	80	47
Central Utah Projects	153	22,335	237,723	3				233		12.6	25.7	53,982	26	
Curecanti Unit	77	13,223	111,148	1		1		6,000		0.0	0.0	1,132	0	
Flaming Gorge Unit	169	29,747	226,579					270		4.4	0.0	1,509	60	
Glen Canyon Unit	355	57,650	518,226	3				782		5.8	4.1	103	0	
Havajo Unit	45	8,615	97,331	1				10		10.3	0.0	0	0	
Transmission System Office	77	11,704	130,368							0.0	0.0	0	0	
Durango Projects	95	15,350	143,214	2				12		14.0	0.0	0	0	
Gopas Development	16	2,392	21,322							0.0	0.0	348	0	
Headwaters Project	87	13,082	129,351	1				45		7.7	0.0	0	0	
Upper Green River Project	26	4,480	43,386							0.0	8.1	0	251	
Weber Basin Project	206	33,080	287,156					79		9.9	4.1	392	20	
Grand Junction Office	124	19,104	201,828							5.2	3.4	2,734	46	
Totals and Averages	1,792	288,656	2,717,978	14	1		7,431							
REGION 5														
Amarillo Regional Office	105	25,567	165,893							0.0	5.9		0	24
Albuquerque Development	29	4,480	30,825							0.0	-	0	-	
Austin Development	79	11,597	101,345							0.0	9.7	0	331	
Canadian River Project	121	20,978	163,119							0.0	0.0	0	0	
Lower Rio Grande Rehabilitation	247	39,809	398,818	4				36		10.1	18.7	91	232	
Middle Rio Grande Project	76	11,415	69,611							0.0	0.0	0	0	
Norman Project	26	3,498	40,194							0.0	0.0	0	0	
Oklahoma City Development	26	3,498	40,194							0.0	0.0	0	0	
Rio Grande Project	286	47,348	457,657	1	5		3	27	21.1	10.3	26.9	63	59	432
San Angelo Project	71	12,536	163,159	2				99		14.0	5.7	692	6	
Washita Basin Project	13	2,600	50,628							0.0	0.0	0	0	
Wichita Project	54	9,866	69,824	1				1		14.3	0.0	14	0	
Totals and Averages	1,165	198,014	1,783,063	1	12		3	163	5.1	6.7	14.8	15	91	196
REGION 6														
Billings Regional Office	240	38,320	332,054					1		3.0	3.4		3	143
Canyon Ferry Project	20	3,017	27,825							0.0	0.0	0	0	
East Bench Project	74	11,696	108,689							0.0	0.0	0	0	
Fort Peck Project	37	5,050	48,915	1	1		17	17	198.0	20.4	39.7	3,366	348	595
Missouri-Oahe Projects	287	47,137	397,516	1	4		14	262	21.2	10.1	6.6	297	659	80
Missouri-Souris Projects	138	23,788	212,458	1				6		4.7	4.5	26	27	
Power System Operations	37	5,920	60,320							0.0	0.0	0	0	
Riverston Project	31	4,218	43,041							0.0	0.0	0	0	
Upper Missouri Projects	102	15,154	150,200	3				28		20.0	15.7	186	197	
Yellowtail Project	113	18,453	163,514					24		12.2	0.0	147	0	
Totals and Averages	1,079	172,753	1,544,535	2	12		31	338	11.6	7.8	5.9	179	219	85
REGION 7														
Denver Regional Office	163	26,080	245,216							0.0	0.0		0	0
Denver Development	33	4,960	45,352							0.0	0.0	0	0	
Kanasa River Projects	333	51,459	516,303	1				8		1.9	6.0	15	220	
Niobrara-Lower Platte Projects	330	52,800	484,640							0.0	14.7	0	88	
North Platte River Projects	319	51,040	450,880							0.0	2.2	0	2	
South Platte River Projects	170	27,200	264,370	1	2		9	23	36.8	7.6	7.8	331	87	27
Totals and Averages	1,348	213,539	2,006,661	1	3		9	31	4.7	1.5	6.4	42	15	82
CONSOLIDATED TOTALS	11,386	1,793,792	17,046,327	12	91	2	167	15,277	6.7	5.3	8.1	93	896	508
TOTALS LAST YEAR (1961)	10,472		2,258,640		162	1		9,076		7.6			427	

* FATALITIES INCLUDED IN TOTAL DISABLING

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH... September 30, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS			
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	
REGION 1															
Chief Joseph Dam Project	78	12,757	69,416						0.0	0.0		0	0		
Columbia Basin Project	127	17,185	171,162		1			3	5.8	6.6		18	46		
Crooked River Project	0	0	240						0.0	0.0		0	0		
Hungry Horse Project	0	0	2,437						0.0	0.0		0	0		
Minidoka Project	7	1,138	7,272						0.0	0.0		0	0		
Rogue Project	0	0	31,451						0.0	38.1		0	932		
Vale Project	134	21,613	69,333	1	3		10	37	46.3	43.2	-	463	534		
Yakima Project	11	1,120	10,792						0.0	0.0		0	0		
Coeur d'Alene	6	268	268						0.0	-		0	-		
Totals and Averages	363	54,101	362,391	1	4		10	40	18.5	11.0	12.0	185	110	253	
REGION 2															
Sacramento Regional Office	0	0	1,035						0.0	0.0		0	0		
Distribution System Projects	25	1,680	91,004		4			99	43.9	52.5		1,068	1,208		
El Dorado Distribution	303	47,681	186,490	2	11		21	106	41.9	59.0	55.0	440	568	477	
Klamath Project	27	3,509	35,115						0.0	0.0		0	0		
Lahontan Basin Project	62	10,770	43,517						0.0	80.1		0	1,092		
Red Bluff Office	245	41,230	149,803		4			149	26.7	-		905	-		
San Luis Unit	16	2,556	5,334						0.0	-		0	-		
Tracy Field Division	10	784	4,008						0.0	702.7		0	7,027		
Trinity River Division	1,204	213,972	1,163,100	5	48		174	1,227	23.4	41.3	44.4	813	1,055	4,239	
Folsom Field Division	0	0	848						0.0	0.0		0	0		
Totals and Averages	1,892	322,182	1,680,654	7	67		195	1,581	21.7	39.9	46.6	605	941	3,768	
REGION 3															
Boulder Canyon Project	0	0	1,626						0.0	39.5		0	2,172		
Colorado River FWSIS	47	5,645	58,461						0.0	0.0		0	0		
Parker-Davis Project	35	3,943	8,917	1	1		2	2	253.6	112.1	0.0	507	224	0	
Phoenix Development	0	0	1,933						0.0	-		0	-		
Yuma Projects	28	4,361	61,862	1	1		26	26	16.2	16.0		420	417		
Totals and Averages	110	13,949	132,799	1	2		2	28	71.7	15.1	21.4	143	211	865	
REGION 4															
Central Utah Projects	51	7,599	56,634		3			106	53.0	33.1		1,872	192		
Curecanti Unit	300	61,906	273,640	1	4		21	48	16.2	14.6	-	339	175	-	
Flaming Gorge Unit	1,130	209,163	1,295,610	1	9	1	9	6,403	4.8	6.9	6.0	43	4,942	494	
Glen Canyon Unit	1,721	317,290	2,447,473	10	53	1	6,386	8,210	31.5	21.7	18.9	20,127	3,354	6,835	
Havasu Unit	211	47,299	552,018	1	9		8	240	21.2	16.3	11.1	169	435	125	
Hoover County Project	8	868	2,624						0.0	-		0	-		
Florida Division	275	41,817	278,292	1	8		6	180	23.9	28.7	64.6	143	647	1,549	
Grand Junction Projects	102	19,471	243,923		5			81	20.5	20.9		332	91		
Seedskeades Project	300	53,461	391,342		3			72	7.7	0.0		184	0		
Upper Green River Project	2	80	1,328						0.0	-		0	-		
Weber Basin Projects	323	57,295	296,583	1	11	1	30	6,100	17.5	37.1	26.2	524	20,568	722	
Totals and Averages	4,423	816,179	5,839,367	15	105	3	6,460	21,440	18.4	18.0	16.8	7,915	3,672	3,568	
REGION 5															
Amarillo Regional Office	3	200	1,134						0.0	96.2		0	192		
Albuquerque Development	3	510	1,369						0.0	-		0	-		
Canadian River Project	278	55,811	244,250	1	6		5	96	17.9	24.6	0.0	90	393	0	
Lower Rio Grande Rehabilitation	316	29,101	197,683		6			43	30.4	14.9		218	44,821		
Middle Rio Grande Project	5	231	19,819						0.0	0.0		0	0		
Norman Project	32	4,384	8,066	2	2		21	21	456.2	248.0	-	4,730	2,604		
San Angelo Project	339	75,790	844,124	2	24	3	6,040	18,411	26.4	28.4	53.6	79,747	21,811	32,531	
Washita Basin Project	0	0	104,613		6			35	57.4	40.3		335	882		
Wichita Project	163	25,231	88,013						0.0	-		0	-		
Totals and Averages	1,139	191,210	1,509,971	5	44	3	6,066	18,606	26.1	29.2	44.8	31,724	12,329	25,948	
REGION 6															
Billings Regional Office	0	0	644						0.0	-		0	-		
East Bench Project	263	36,410	239,477		9			154	39.0	29.6		668	690		
Missouri-Osage Projects	375	53,989	330,049	8	1			6,026	24.2	58.7		18,258	35,959		
Missouri-Souris Projects	181	27,073	109,263		3			160	27.5	20.0		1,464	404		
Riverton Project	5	532	21,082						0.0	0.0		0	0		
Upper Missouri Projects	23	3,679	7,935						0.0	0.0		0	0		
Yellowtail Project	468	110,157	670,195		8			263	39.0	0.0		668	0		
Totals and Averages	1,315	233,840	1,369,545		28	1		6,603	20.4	24.1		4,821	8,421		
REGION 7															
Kansas River Projects	259	58,354	424,265		4			2,044	9.4	9.3		4,818	13,990		
Niobrara-Lower Platte Projects	615	132,085	696,234	3	13		107	192	22.7	7.0		810	276	632	
North Platte River Projects	9	1,218	12,751		1			12	78.4	80.4		941	1,387		
South Platte River Projects	12	1,432	9,330						0.0	0.0		0	0		
Totals and Averages	895	193,089	1,142,580	3	18		107	2,248	15.5	15.8	11.3	554	1,967	6,085	
CONSOLIDATED TOTALS															
		10,137	1,824,550	2,036,507	32	268	7	12,840	50,546	17.5	22.3	25.5	7,037	4,199	6,876
TOTALS LAST YEAR (1961)		7,438		35,215,753	367	12		90,162		24.1			5,926		

* FATALITIES INCLUDED IN TOTAL DISABLING





614.805
SAR



SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF ASSISTANT COMMISSONER
AND CHIEF ENGINEER

RECEIVED BY THE
DEC 11 1962
FEDERAL BUREAU OF RECLAMATION

October 1962

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Front Cover Photo: Cart Creek Bridge being constructed by American Bridge Company for the State of Utah. When completed will support Utah Highway No. 260 leading to Flaming Gorge Dam. Note safety net under structure. Reclamation photo P591-421-4288.

SAFETY RECORD is published monthly by the Office of
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of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - October 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Region 7	2.2	19	0.4	3.9
Region 2	5.3	1,979	104.9	4.9
Region 5	6.0	82	4.9	1.9
Region 4	6.0	2,503	150.2	2.1
Region 6	8.1	230	18.6	3.8
Region 1	8.5	337	28.6	1.7
Region 3	10.6	138	14.6	5.6
Alaska District	18.7	131	24.5	19.9
Totals to Date (1962)	5.6	820	45.9	3.4
Totals Last Year	7.6	427	32.5	4.6

*Injury index is equal to frequency rate times severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - October 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	11.8	14,269	1
Region 7	16.5	6,221	0
Region 4	18.2	3,300	3
Region 3	20.3	560	0
Region 6	21.2	4,279	1
Region 5	27.1	11,007	3
Region 2	38.0	3,871	1
Totals to Date (1962)	22.1	5,030	9
Totals Last Year	24.1	5,926	12

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
October 31, 1962

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost	Type	Description	No.	Days lost
1	Railroad	1	6,000	14	Falls of Persons	27	7,413
3	Water Craft	1	135	16	Striking Against	2	14
5	Vehicles	3	22	17	Flying Particles	3	7
9	Electricity	1	45	18	Hand Tools	5	63
10	Flash Burns	1	4	19	Machinery	5	176
11	Dust-Chemicals	3	12	20	Not otherwise		
12	Handling Material	27	439		classified	20	546
13	Falling Objects	7	728		Totals	106	15,604

B. OPERATIONAL SUMMARY

Operation	Man-Hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	4,347,661	5	753	1.1	173
Construction	4,940,937	22	12,825	4.5	2,596
Design	1,968,552	3	52	1.5	26
Investigation	2,463,520	21	1,095	8.5	444
O&M Irrigation	2,371,225	29	331	12.2	140
O&M Power	2,928,122	26	548	8.9	187
Totals	19,020,017	106	15,604	5.6	820

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of Accident	Days lost
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3- 3-62	Inspector	Raising safety strap, fell from pole	180
4- 9-62	Electrician	Fell from bushing on oil circuit breaker	96
5- 9-62	Drill Helper	Drill drive hammer struck hand	600
5-14-62	Survey Aid	Fell from bridge pier into river, drowned	6,000
6-14-62	Engineer	Contacted powerline with drill pipe	45
6-19-62	Engineer	Caught hand in air propeller (boat)	135
8- 3-62	Inspector	Struck by agitator car in tunnel	6,000
8-31-62	Inspector	Struck by drifting concrete bucket	270

ACCIDENT REVIEW

BULLDOZER

Employer: Contractor

Activity: Operating bulldozer in borrow area

Accident Situation and Occurrence: A bulldozer was making a cut in a section of earth between the borrow area and a vertical silt bank of a creek. The vertical bank, some 10 feet in height, gave way under the bulldozer and the machine overturned. It pinned the operator underneath the seat and he received fatal head injuries.

Cause Determination: The dozer was being operated in an unsafe manner by working parallel to and at too close a distance to the edge of the vertical bank. The materials could have been moved by working the dozer from either end of the embankment without the need to operate from the top of the bank.

FALL

Employer: Government

Activity: Survey operations

Accident Situation and Occurrence: A surveying aid employee fell backwards to the ground while climbing over a barbed wire fence. He injured a tendon in his finger and the time lost was estimated at 15 days. Care must be exercised when necessary to climb over fences and should be done close to a post for added hand support.

SEMITRUCK AND TRAILER

Employer: Contractor

Activity: Operating semitruck and trailer

Accident Situation and Occurrence: A semitruck and trailer loaded with 4,000 gallons of water was traveling on the dirt roadbed of the unfinished railroad. Light rain had made the roadbed very slick. The truck slid into an adjacent ditch and overturned. The driver jumped from the truck as it overturned and landed on his side. The lost time from the injuries received was estimated at 42 days.

Cause Determination: Construction operations should have been halted before haul roads became hazardous. This accident could have been prevented if the driver had stopped operating the truck before the road grade surface became dangerous.

LIFTING

Employer: Government

Activity: Testing operations in exploratory tunnel

Accident Situation and Occurrence: Employee was lifting jack testing equipment when he strained his back. Lost time was estimated at 18 days. This is another case where the workman should have obtained help for moving this heavy equipment. Supervisors must see that adequate help is available when necessary to hand lift heavy objects.

PULLEY BELT

Employer: Contractor

Activity: Power augering holes

Accident Situation and Occurrence: The auger operator placed his hand across a V-belt that transmits power from the motor to the auger. He then placed it in gear and his fingers were pulled into the pulley. Time lost was estimated at 11 days.

Cause Determination: Unsafe operation of equipment. The machine had just been overhauled and the cover for the V-belt was not replaced. This machine should not have been used until the belt guards were installed.

TRACTOR

Employer: Contractor

Activity: Parked tractor started moving downhill.

Accident Situation and Occurrence: The operator had parked his tractor on a hill and was working some 40 feet away from it on the ground. The tractor started rolling downhill and the employee tried to jump onto the machine in order to stop it. The tracks caught him and he was rolled under the machine causing fatal injuries.

Cause Determination: The employee should not have made any attempt to jump onto the moving vehicle. Motors on equipment to be turned off when not in immediate use, left in gear, and parked at right angle to the slope.

WATER SAFETY

Region 4: The first organizational meeting on the formation of the Cache County Water Safety Council was held in September 1962 at Logan, Utah. Bimonthly meetings of the Council will be scheduled during the winter and monthly meetings through the spring, summer, and fall of 1963.

Plans are underway to initiate action on organizing a Weber County Water Safety Council for the Ogden area during the coming months, so that the Council will be functioning prior to the beginning of the water sports season in the spring of 1963.

With the closure of Flaming Gorge Dam this fall and Glen Canyon Dam next spring, preparations will be made to form Water Safety Councils in those areas. A representative from the National Park Service Office in Page, Arizona, has already contacted the Regional Office in regard to a Water Safety Council in that area.

Region 5: The Randall-Potter County Water Safety Committee was reactivated March 4, 1962, by the American Red Cross, Amarillo, Texas, with assistance given by the Bureau's Region 5 Office. The committee has sponsored instruction courses in swimming for beginners through lifesaving and water safety instructors training.

The Hutchinson County Chapter, Red Cross Water Safety Committee is very active and is composed of representatives from the cities of Borger, Phillips, Buena Vista, Sanford, Fritch, and Stinnett, Texas.

Region 6: The initial meeting of the Missouri Valley Water Safety Council was held May 21, 1962, at Helena, Montana. The Council is active but still in the formative stage under the leadership of the American Red Cross Chapter at Helena. Meetings have been held to interest other people and civic clubs in a water safety program.

The West River Water Safety Council was organized by the American Red Cross on May 31, 1962, at Rapid City, South Dakota. The Council has sponsored alerting the public to water hazards through radio, television, and newspaper media.

Niobrara-Lower Platte: Project Manager Paul L. Harley addressed the Sherman-Howard County Water Safety Council October 9 at its regular monthly meeting in Dannebrog, Nebraska. The following excerpts are quoted for your information:

"Mr. President and members of the Council, it is a pleasure for me to be here this evening to watch you at work and to participate in one of your activities for this meeting. You are to be complimented for your foresight and interest in forming a Water Safety Council to serve the residents of Sherman and Howard Counties and others who come here to enjoy the public waters. This organization can be proud of its role in stimulating community interest in Water Safety in an endeavor to prevent water tragedies.

"In recognition of the efforts put forth by each active member of this organization, we are pleased to present to each of you a certificate of appreciation. May you accept them with pride and continue with wisdom and a determination to succeed."

* * * * *

METALLIC CLOTH TAPE

A survey employee was standing adjacent to a powerline when he threw a 100-foot metallic tape to unwind it. His throw was bad and the tape went high into the air and hit the 7,200-volt line (conductor approximately 20 feet above the ground.) The ground was damp due to a recent rain and the metallic tape conducted the current to the employee's hand. He was knocked down and suffered electrical burns on his right hand where the tape's metal end ring was on his index finger. This could have been a fatal accident.

It should be reemphasized to all employees that although the tape seems to be of cloth material, it is a metallic tape, and therefore a conductor of electricity.

A tape should never be thrown upward and if other personnel are available should not be thrown at all. The tape will unwind satisfactorily by dropping the case on the ground and walking away or letting another person walk with the free end.

The practice of placing a finger in the metal ring at the end of the tape should be discontinued. This will allow quick release of the tape and will also eliminate the possibility of dislocated fingers should the tape tangle with any object when dragging it along the ground.

* * * * *

SAFETY FILMS

Safety Conference Guide No. 11 (A), "Department Training Films Pertaining to Safety," has been recently issued. It lists, by title and type, safety films that are available on a loan basis from various bureaus of the Department. The availability of these films to bureaus without charge will eliminate the cost of procuring identical films from commercial sources. When requesting films on a loan basis, present the details in writing to the appropriate bureau allowing sufficient time to meet the scheduled showing.

* * * * *

FROM THE FIELD

Curecanti Unit Office: A program for review of the Safety Requirements for Construction by Contract, Third Edition, was initiated on October 29, 1962, at the Blue Mesa Field Office and was attended by all available field and inspection personnel. This program consists of a 15-minute session held each day and will continue until all personnel have completed the review.

Red Bluff Office: There was a discussion and review of the Safety Requirements for Construction by Contract, Third Edition. Project Construction Engineer D. R. Alexander requested that provisions be made for training and review of the subject publication by all contract administration and inspection personnel. He pointed out the responsibility and obligation of all Bureau contract administration personnel to insure that these requirements are met on work under their supervision.

Norman Project: The Project Safety Committee was informed of the current group review of the Safety Requirements for Construction by Contract conducted by the Safety Engineer. The Construction Engineer stated that the Chief of Inspection is responsible for having all inspectors review the publication with the Safety Engineer as advisor only.

Wichita Project: Daily inspections were made of both Government and contractor work operations. Unsafe conditions and practices found were corrected or action taken to do so, including frayed wire rope sling replaced on concrete bucket; additional fire extinguishing equipment ordered; concrete bucket platforms constructed; method of crane hookup to bucket changed to permit workmen standing on the level instead of walking on rim of bucket; and placed backstops for concrete trucks at unloading site.

Hungry Horse Project: On October 18, Mr. Jack Cory of Cascade Distributors of Spokane conducted a 2-hour course on the operation of a powder-operated stud driver. This tool had been purchased by the project and the course covered the safe handling of explosive-actuated tools. This course is a requirement in the State of Washington, and the 14 employees who took it received cards certifying them as qualified explosive-actuated tool operators.

Yellowtail Project: On October 6, the new fire truck was delivered to the project. The rated capacity is 500 gallons per minute at 150 pounds per square inch. It is equipped with auxiliary 1-inch rubber hose mounted on reel over the 300-gallon water tank and two 15-gallon tanks for foam and wet water for use with 1-1/2-inch hose. It has 600 feet of 2-1/2-inch and 600 feet of 1-1/2-inch nylon rubber-lined hose with adequate connectors and combination fog and straight

nozzles. Helmets, jackets, gas masks, and first aid kits are provided on the truck. Volunteer fire-fighting crews are being trained to handle the new equipment with weekly drills held until all are familiar with the unit.

Flaming Gorge Unit: The Arch Dam Constructors announced that during the week of October 8, Flaming Gorge Dam personnel passed the 600,000 man-hour mark of accident-free work as 115 days had elapsed since the last lost-time injury which occurred on June 16. Work during this period consisted primarily of concrete placement. Men raising forms, vibrating concrete, cleaning blocks preparatory to pouring and performing other duties have been working at heights exceeding 400 feet above the canyon floor. The record is especially noteworthy in view of the hazards.

Shasta Field Division: During the month, Safety Inspector Carrol Halcomb attended a 5-day U.S. Department of Labor sponsored course in Occupational Safety at Sacramento, California.

South Platte River Projects: Regional Letter 63-9 on use of hard hats was routed to all members of the Safety Committee in October. This letter provides that the contracting officer shall determine with contractors concerned, construction areas where hazardous work is to be performed. The Project Manager shall determine where hazardous work is to be performed in connection with O&M work. These areas shall be designated as "Hard Hat" areas, and all persons entering must wear a hard hat.

San Angelo Project: Field Engineer C. E. Tackett opened the safety meeting with a short talk on the new edition of Safety Requirements for Construction by Contract. He pointed out that all personnel are to study the manual and each division should devote at least 30 minutes a week in its meetings with a review and discussion of the manual.

Grand Junction Projects: Provisions have been made for a review and study of the third edition, Safety Requirements for Construction by Contract by all field personnel concerned with the administration and inspection of contract work.

Minidoka Project: A representative of the U.S. Department of Labor is conducting a supervisors' safety training course at Burley, with six Project employees in attendance.

Central Utah Projects: A copy of Safety Requirements for Construction by Contract, Third Edition, was furnished each employee involved in contract administration and inspection of construction by contract. A time schedule for self study of the booklet, including review periods, was followed by the personnel concerned.

VEHICLE SAFETY

KEEP YOUR SEAT BELT FASTENED

In three recent motor vehicle accidents reported by Region 2, we have proof that seat belts can help prevent serious injury or death.

One accident involved a Bureau jeep. A calf jumped from some high weeds and became lodged under the front wheels. The vehicle went out of control and struck a power pole. The jeep was damaged to the extent of \$1,000. The driver was not injured; attributed to the use of a seat belt.

The second accident occurred when a motor vehicle went into a canal. The pickup left the canal bank, turned over on its side and came to rest in about 4 feet of water. The Bureau driver received only minor bruises and believes the use of the seat belt saved his life.

The third accident occurred when a ditchrider attempted to pass a truck near the site of road construction. The pickup struck the side of the truck and rolled over into an adjacent drainage ditch. The driver unfastened his seat belt and crawled out uninjured.

Glen Canyon Unit: E. R. Lonergan, City Administrator, D. B. Kofford, Chief Ranger, and R. C. Gaulke, Project Safety Officer, participated in a Traffic Safety Workshop at Flagstaff, Arizona, on October 5. Similar meetings were also held in various cities throughout the state to discuss and promote ideas, ways, and means of reducing the tragic loss of life resulting from highway traffic accidents. About 100 people representing the State of Arizona, Law Enforcement, Judicial, Public Health, Motor Vehicle Administration and Enforcement Divisions, and various Government agencies in the area were in attendance. Specific problems were discussed and preventive measures recommended.

Eklutna Project: All project vehicles are now equipped with seat belts, both front and rear seats.

A STUDY OF PREVENTABILITY

Vehicle 1 (a truck) was traveling in the right lane of a four-lane highway. The time was 11:30 a.m., the weather clear, and the road was dry. His speed was approximately 45 miles per hour. The driver stated: "I started my left turn signals prior to changing lanes. Vehicle 2, which evidently was following, increased speed and started to pass. It struck its right fender on my left rear corner."

Further questioning of the driver of vehicle 1 revealed that vehicle 2 was apparently directly behind vehicle 1 in the same lane, and following very closely. He further said that he could not see vehicle 2 in his mirrors before he started his turn signals. He went on to say that he was completely in the center lane before the horn of vehicle 2 attracted his attention, and that he did not see vehicle 2 until the time of the accident.

The company's accident review committee tie-voted on this case and sent it on to the National Safety Council.

NSC's Accident Review Committee ruled that the driver of vehicle 1 did not do everything he reasonably could have done to prevent this accident. First, a professional driver should keep track of traffic approaching his vehicle at all times. Second, when attempting to change lanes, the turn signals should be started well in advance and left on for a few seconds while the driver continues in his present lane. If no traffic is present or in sight, he gradually changes over to the other lane, continuing his check for approaching traffic during the entire movement. By this means, drivers following are not taken by surprise, but have more time to adjust their driving to the lane change maneuver.

--Commercial Vehicle Newsletter, November 1962--

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BUREAU OF MINES AWARD TO CONTRACTOR EMPLOYEE

On October 13, 1961, Garth Powell of Salt Lake City, Utah, an employee of M. W. Larson Contracting Company, a subcontractor on the Flaming Gorge-Vernal Rangle 138-kv Transmission Line, promptly and successfully administered artificial respiration to Mr. Kenneth Robben, a fellow employee.

Mr. Robben accidentally came into contact with a high-voltage power-line and sustained severe electric shock with burns on left hand and both feet. All of the available evidence and a statement from the attending physician were submitted to the U.S. Bureau of Mines with an application for the Certificate of Honor. A Certificate of Honor was subsequently awarded to Garth Powell by the Bureau of Mines.

* * * * *

MISUSE OF EXTINGUISHERS

Recently a project reported that drivers are evidently using the vehicle's fire extinguishers to kill bees or wasps that find their way inside the car. It was pointed out not only does this leave a mess inside the vehicle but the operator is without fire protection until the extinguishers are refilled. Obviously, insect spray cans should be obtained for such use.

* * * * *

EXCERPTS FROM SAFETY REQUIREMENTS FOR CONSTRUCTION BY CONTRACT

Section II GENERAL CONTRACTOR REQUIREMENTS

2-1. Safety Program. Each contractor shall demonstrate that he has facilities for conducting a safety program commensurate with the work under contract. He shall submit in writing a proposed comprehensive safety program to the Contracting Officer for approval prior to the start of construction operations. The program shall specifically state what provisions the contractor purposes to take for the health and safety of his employees.

2-2. Preconstruction Safety Meeting. Representatives of the prime contractor shall meet with the Contracting Officer's authorized representative, prior to start of construction, for the purpose of discussing safety standards and requirements applicable to the work under contract.

2-3. Joint Safety Policy Committee. The contractor will be required to participate in a monthly meeting of a Joint Safety Policy Committee, composed of Bureau and contractor supervisory personnel. These meetings, attended by the contractor's project manager and the Contracting Officer's representative, will be utilized to review the contractor's accident experience, review the effectiveness of the contractor's safety effort, resolve job health and safety problems, and plan and coordinate safety activities.

2-4. Safety Personnel. Each contractor shall designate a competent supervisory employee to effectively carry out his health and safety program. Where the nature or size of job warrants, the Contracting Officer may, at his option, request the contractor to employ a full-time qualified Safety Engineer.

2-5. Safety Meetings. A minimum of one 5-minute duration, "on-the-job" or "tool-box," safety meeting shall be conducted each week by all field supervisors or foremen and attended by all mechanics and laborers at the worksite.

2-6. First-aid and Medical Attention. Each contractor shall provide adequate facilities and qualified personnel to insure prompt and efficient first-aid and medical care of injured employees. Such facilities shall meet the minimum requirements as set forth in Section IV of this manual.

2-7. First-aid Training. All contractors shall arrange for first-aid training for their foremen, in order to insure that every supervisor of workmen shall possess a current Bureau of Mines or American Red Cross first-aid certificate.

2-8. Reports. Each contractor shall maintain an accurate record of, and shall report to the Contracting Officer in the manner, and on forms prescribed by the Contracting Officer, all cases of death, occupational disease, or injury arising out of or in the course of employment incident to performance of work under contract. All fatal or serious injuries shall be reported immediately to the Contracting Officer's field representative, and every assistance shall be given in the investigation of the incident, including submission of a comprehensive narrative report to the Contracting Officer's authorized representative. Further, other accidental occurrences with serious accident potential such as equipment failures, slides, cave-ins, etc., shall likewise be reported immediately.

Section III EMPLOYEE INDOCTRINATION AND INSTRUCTION

3-1. Each employee shall be provided with initial indoctrination and instruction in order to enable him to perform his work in a safe manner.

3-2. Initial indoctrination shall include instructions relative to pertinent company safety regulations, reporting of accidents, and availability of first-aid and medical facilities.

3-3. Each employee shall be given a written notice containing the pertinent provisions of the contractor's safety program. Should an employee refuse or fail to comply with the safety provisions, the contractor may be requested to promptly terminate his employment.

Section IV FIRST-AID AND MEDICAL FACILITIES

GENERAL

4-1. The following provisions are based upon the recommendation prepared by the Committee on Medical Service for Construction Projects of the Council on Industrial Health, American Medical Association, as published in the pamphlet entitled "A Guide for Medical Services for Construction Projects."

CLASS A--FIRST-AID FACILITIES (100 OR FEWER EMPLOYEES)

4-2. On projects where 100 or fewer workers (total number of employees on all shifts) are employed, 16-unit first-aid kits shall be provided at accessible points in the ratio of at least one kit for each 25 employees. The first-aid kits shall be moisture and dusttight and the contents of the kits replenished as used.

4-3. At least one supervisor qualified to administer emergency first aid shall be available on each shift, and duly designated by the contractor to care for injured employees. (See Paragraph 2-7.)

4-4. The contractor shall make necessary arrangements for prompt and dependable communications, transportation, and medical care for injured employees. At least one stretcher shall be readily available for transporting injured employees.

CLASS B--FIRST-AID FACILITIES (101 TO 300 EMPLOYEES)

4-5. In addition to the requirements set forth in Class A above, on projects employing a total of 101 to 300 employees (total number of employees on all shifts) the contractor shall provide a fully equipped first-aid station. First-aid stations shall provide a minimum of 100 square feet of floor space with provision for adequate light, heat, potable water, waste disposal, and ventilation.

4-6. Either a qualified first-aid attendant or registered nurse shall be available and responsible for administration of emergency first-aid care at all hours when work is in progress. The first-aid attendant or registered nurse shall be under the general direction of a responsible licensed physician.

4-7. The contractor shall make prior arrangement for prompt and dependable ambulance service, communications, hospital and medical care for injured employees.

CLASS C--FIRST-AID AND MEDICAL FACILITIES (301 TO 1,000 EMPLOYEES)

4-8. On contracts employing a total of 301 to 1,000 employees (total number of employees on all shifts) a fully equipped infirmary shall be provided on the jobsite and attended full time by a professional nurse registered in the state, where the work is being performed. The registered nurse shall be under the direction of a licensed physician retained on a part-time basis to administer medical attention and inspect the premises at regular intervals.

4-9. The location, size, and equipment in the infirmary shall have the approval of the Contracting Officer, and be so constructed as to provide reasonable quiet, privacy, communications, adequate ventilation, light, heat, hot and cold water, toilet facilities, electrical outlets, and impervious floors. The interior shall be sealed, painted, and maintained in clean and sanitary condition. Doors and windows shall be properly screened. The infirmary shall have adequate equipment and supplies for outpatient treatment.

4-10. An ambulance shall be retained at the construction site for transporting the sick or injured. The contractor shall make prior arrangement for prompt hospital and medical care for injured employees.

CLASS D--FIRST-AID AND MEDICAL FACILITIES (OVER 1,000 EMPLOYEES)

4-11. On contracts employing a total of 1,001 or more employees (total number of employees on all shifts) the full-time services of a resident physician with an adequate nursing staff shall be provided in addition to the requirements listed for Class C above.

4-12. Provisions shall be made for short term inpatient care and an ambulance retained at the construction site for transporting the sick or injured.

FIRST-AID AND MEDICAL RECORDS

4-13. The contractor shall maintain a first-aid treatment and medical record system on all projects requiring a first-aid station, infirmary, or hospital (Classes B, C, and D). The records shall be readily available to the Contracting Officer and his authorized representative, and shall include: (a) a daily treatment log listing all patients visiting the facility for occupational and nonoccupational injuries and illnesses; (b) cumulative individual medical records; (c) monthly statistical records of occupational injuries, classified as to type and nature of injury; and (d) required workmen's compensation records.

MISCELLANEOUS PROVISIONS

4-14. All contractors shall provide the Contracting Officer or his authorized representative with certificates of insurance prior to start of operations indicating full compliance with the state workmen's compensation statutes.

4-15. Adequate means of communication and transportation to promptly and effectively care for disabled workers shall be provided.

4-16. Adequate identification and directional markers shall be provided to readily denote location of all first-aid stations and infirmaries.

4-17. Emergency lighting shall be provided for all first-aid stations and infirmaries.

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1952.. THROUGH...October 31, 1952..

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	236	42,424	402,144						0.0	0.0		0	0	
Denver Office and Laboratories	1,404	258,336	2,410,168	2			49		0.8	0.9		20	2,606	
Alaska District	37	5,447	53,434	1			7		18.7	68.0		131	1,955	
REGION 1														
Boise Regional Office	167	27,958	251,885						0.0	7.2		0	12	
Central Snake Projects	51	7,783	77,079	1			1		13.0	41.1		13	411	
Chief Joseph Dam Project	38	6,307	57,584						0.0	0.0		0	0	
Coeur d'Alene Project	12	2,084	10,084						0.0	0.0		0	0	
Columbia Basin Project	850	156,400	1,491,416	3	14		50	192	19.2	9.4	13.1	320	129	87
Crooked River Project			3,150						0.0	0.0		0	0	
Hunary Horse Project	53	9,185	93,237	2			61		21.4	0.0		654	0	
Lower Columbia Development	39	6,105	60,842						0.0	0.0		0	0	
Kindoka Project	155	20,441	234,330	3			11		12.8	7.8		47	23	
Rogue Project	8	1,210	39,293						0.0	0.0		0	0	
Snake River Development	48	7,462	74,129	1			600		13.5	0.0		8,094	0	
The Dalles Project	27	4,648	51,530						0.0	78.8		0	394	
Upper Columbia Development	38	6,334	58,602						0.0	0.0		0	0	
Vale Project	21	3,802	20,459				3		0.0	0.0		0	0	
Yakima Project	20	4,969	44,764						22.3	16.8		67	1,061	
Totals and Averages	1,537	264,688	2,578,324	3	22		50	868	11.3	8.5	11.2	189	337	91
REGION 2														
Sacramento Regional Office	608	111,872	1,045,523				78		7.6	4.3		75	130	
Folsom Field Division	65	12,005	117,699						0.0	0.0		0	0	
Fresno Field Division	149	27,416	258,720	4			61		15.5	11.6		236	1,289	
Shasta Field Division	115	21,371	200,306	1			96		5.0	23.9		479	172	
Tracy Field Division	182	33,893	314,517	3			87		9.5	3.1		277	541	
Distribution System Projects	23	4,079	46,293						0.0	0.0		0	0	
El Dorado Projects	40	7,363	71,672						0.0	11.7		0	35	
Klamath Project	37	7,488	71,855						0.0	24.5		0	232	
Lahontan Basin Project	48	8,832	52,664						0.0	0.0		0	0	
Red Bluff Office	111	20,424	145,786						0.0	0.0		0	0	
San Luis Unit	239	43,976	342,174						0.0	9.1		0	13	
Trinity River Division	251	46,184	480,884	1	1		6,000		2.1	7.8		12,477	106	
Totals and Averages	1,868	344,900	3,194,436	17	1		6,322		5.3	7.5		1,979	264	
REGION 3														
Southern Regional Office	24,104	217,792							0.0	0.0		0	0	
Southern Canyon Project	157	28,008	275,208				89		10.9	24.9		323	407	
Colorado River FW & LS	91	14,605	125,853	1	3		21	28	68.5	23.8		1,438	222	794
Parker-Davis Project	289	45,700	473,028	2	6		23	73	43.8	12.7	12.5	503	154	229
Phoenix Development	61	11,230	96,793				1		10.3	0.0		10	0	
Southern California Development	5	1,104	47,938						0.0	0.0		0	0	
Yuma Projects	156	22,800	229,308				5		8.7	40.6		22	406	
Totals and Averages	891	147,551	1,419,910	3	15		44	196	20.3	10.6	13.9	293	138	291
REGION 4														
Salt Lake Regional Office	326	51,435	595,456	2	2		110	110	38.8	3.4	0.0	2,137	185	0
Emery County Project	32	4,778	31,683						0.0	0.0		0	0	
Central Utah Projects	159	25,540	263,263				233		11.4	7.6		885	42	
Circumferential Unit	80	14,949	126,097	1	2	1	18	6,018	66.9	15.3	21.3	1,204	47,722	0
Flaming Gorge Unit	161	26,763	253,342				270		3.9	0.0		1,066	0	
Glen Canyon Unit	352	65,768	583,994				782		5.1	7.4		1,339	87	
Navajo Unit	43	8,770	106,101				10		9.4	0.0		94	0	
Transmission System Office	77	13,552	143,920	1	1		3	73.8	6.9	0.0		22.1	21	0
Durango Projects	86	16,916	160,124				12		12.5	0.0		75	0	
Logan Development	15	2,616	21,938						0.0	0.0		0	0	
Seedskadee Project	74	12,224	141,585				45		7.1	0.0		318	0	
Upper Green River Project	26	4,160	47,346						0.0	0.0		0	0	
Weber Basin Project	199	26,516	223,672						0.0	7.4		0	228	
Grand Junction Office	121	18,800	220,098				79		9.1	3.7		359	19	
Totals and Averages	1,731	302,841	3,020,819	4	18	1	131	7,562	13.2	6.0	3.8	1,204	47,725	48
REGION 5														
Amarillo Regional Office	104	16,640	182,533						0.0	5.4		0	22	
Albuquerque Development	29	5,235	36,060						0.0	0.0		0	0	
Austin Development	80	11,246	112,641						0.0	8.3		0	300	
Canadian River Project	120	32,237	196,356						0.0	0.0		0	0	
Lower Rio Grande Rehabilitation	58	9,320	105,260						0.0	8.5		0	34	
Middle Rio Grande Project	232	37,352	432,170				36		9.2	17.2		83	201	
Norman Project	73	14,272	83,333						0.0	0.0		0	0	
Oklahoma City Development	25	4,351	44,565						0.0	0.0		0	0	
Rio Grande Project	267	43,144	505,801				27		9.9	28.3		53	412	
San Angelo Project	67	11,864	155,023				99		12.9	5.1		639	5	
Washita Basin Project	9	1,336	51,964						0.0	0.0		0	0	
Wichita Project	55	9,417	79,241				1		12.6	0.0		13	0	
Totals and Averages	1,119	201,464	1,985,527				163		6.0	14.4		82	187	
REGION 6														
Sillings Regional Office	232	37,389	369,443				1		2.7	6.1		3	140	
Canyon Ferry Project	20	3,222	31,050						0.0	0.0		0	0	
East Bench Project	67	11,990	120,699						0.0	0.0		0	0	
Fort Peck Project	36	4,962	53,877				17		18.6	36.2		316	543	
Missouri-Oahe Projects	278	47,088	444,604				262		9.0	8.8		589	47	
Missouri-Souris Projects	135	23,302	236,260				6		4.2	4.1		25	24	
Power System Operations	38	6,080	66,400						0.0	0.0		0	0	
Riverton Project	21	5,009	43,050				42	42	199.6	20.8	0.0	8,385	874	0
Upper Missouri Projects	100	17,427	157,527	1	4		15	43	37.4	23.5	14.1	861	257	177
Yellowtail Project	112	17,490	181,004				24		11.0	0.0		133	0	
Totals and Averages	1,049	174,459	1,718,994	2	14		57	395	11.5	8.1	6.6	327	230	82
REGION 7														
Denver Regional Office	163	29,992	275,208						0.0	0.0		0	0	
Denver Development	32	5,808	51,160						0.0	0.0		0	0	
Kanasa River Projects	327	62,724	579,027				8		7.4	7.4		14	198	
Nicholls-Lower Platte Projects	322	52,320	526,260						0.0	13.0		0	78	
North Platte River Projects	292	46,720	497,530						0.0	2.0		0	2	
South Platte River Projects	174	32,016	296,386				4	24	62.5	13.5	10.4	125	115	94
Totals and Averages	1,325	229,280	2,236,261	2	5		4	42	8.7	2.2	6.2	17	19	83
CONSOLIDATED TOTALS	11,197	1,972,690	19,020,017	14	106	2	286	15,604	7.1	5.6	8.1	145	820	468
TOTALS LAST YEAR (1951)	10,472		21,258,640		162	1		9,076		7.6		427		

* FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH October 31, 1962

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	69	7,693	77,109						0.0	0.0		0	0	
Columbia Basin Project	136	19,387	190,549	1				3	5.2	5.9		16	41	
Coeur d'Alene	33	4,615	4,903						0.0	-		0	-	
Crooked River Project			240						0.0	0.0		0	0	
Hungry Horse Project	1	10	2,447						0.0	0.0		0	0	
Minidoka Project	3	1,035	8,307						0.0	0.0		0	0	
Pogue Project			31,451						0.0	43.8		0	903	
Yale Project	165	27,066	96,399	1	4	1	6,000	6,037	41.5	-	221,680	62,625	-	
Yakima Project	16	1,095	11,887						0.0	0.0		0	0	
Totals and Averages	423	60,901	423,292	1	5	1	6,000	6,040	16.4	11.8	13.1	98,520	14,269	241
REGION 2														
Sacramento Regional Office			1,935						0.0	0.0		0	0	
Distribution System Projects	37	5,471	95,475	1	5		22	121	51.8	63.3	4,021	1,254	1,790	
El Dorado Distribution	216	31,077	217,567		11			106	50.6	45.6		487	396	
Folsom Field Division	34	466	1,314						0.0	0.0		0	0	
Klamath Project	25	2,926	38,041						0.0	0.0		0	0	
Lahontan Basin Project	33	4,902	48,819						0.0	76.4		0	959	
Red Bluff Office	241	44,344	194,148	4				149	20.6	-		767	-	
San Luis Unit	59	4,947	10,283						0.0	-		0	-	
Tracy Field Division			4,008						0.0	702.7	27,454	0	7,027	
Trinity River Division	973	223,505	1,386,605	8	56	1	6,136	7,363	40.4	42.9		5,310	3,836	
Fresno Division	7	440	440						0.0	0.0		0	0	
Shasta Division	9	380	380						0.0	0.0		0	0	
Totals and Averages	1,634	318,458	1,999,113	9	76	1	6,158	7,739	28.3	38.0	45.3	19,337	3,871	3,433
REGION 3														
Boulder Canyon Project			1,626						0.0	33.8		0	1,857	
Colorado River FM & IG	44	4,176	62,637						0.0	0.0		0	0	
Parker-Davis Project	57	7,066	15,983	1	2		55	57	141.5	125.1	7,784	3,566	0	
Phoenix Development			1,933						0.0	-		0	-	
Yuma Projects	32	4,083	65,945	1	1		26		15.2	15.4	394	400		
Totals and Averages	133	15,325	148,124	1	3		55	83	65.3	20.3	19.8	3,589	560	803
REGION 4														
Central Utah Projects	64	11,914	68,548		3			106	43.8	33.8		1,546	208	
Current Unit	303	59,482	333,122	2	6		210	258	33.6	18.0	3,530	774		
Flaming Gorge Unit	1,004	216,349	1,511,859	2	11		49	6,452	9.2	7.4	226	4,268	604	
Glen Canyon Unit	1,770	296,361	2,743,834	8	61	1	117	8,327	27.0	22.2	395	3,035	6,358	
Navajo Unit	141	26,998	579,016		9			240	15.5	13.1		414	123	
Emery County Project	7	501	3,125						0.0	-		0	-	
Florida Division	287	50,655	328,947	1	9		27	287	27.4	57.4	533	609	1,860	
Grand Junction Projects	76	13,376	257,299		5			81	19.4	18.8		315	82	
Reedbank Project	257	54,440	445,791		3			72	6.7	0.0		162	0	
Upper Green River Project			1,328						0.0	0.0		0	0	
Weber Basin Projects	420	82,087	378,670	3	14	1	110	6,210	36.5	37.0	1,340	16,400	619	
Totals and Averages	4,329	812,172	6,651,539	16	121	3	513	21,953	19.7	18.2	16.6	632	3,300	3,643
REGION 5														
Amarillo Regional Office	3	100	1,234						0.0	96.2		0	192	
Albuquerque Development	3	192	1,561						0.0	-		0	-	
Canadian River Project	271	59,667	303,917	2	8		33	150	26.3	0.0	559	494	0	
Lower Rio Grande Rehabilitation	341	35,421	233,113		6			45	25.7	12.6		193	27,960	
Middle Rio Grande Project	5	1,192	21,011						0.0	0.0		0	0	
Norman Project	40	7,104	15,170		2			21	131.8	-		1,384	-	
Rio Grande Project	8	560	660						0.0	-		0	-	
San Angelo Project	318	61,056	905,180				18,455		26.5	40.5	20,388	28,273		
Washita Basin Project	7	391	105,004		6		35		57.1	39.5	333	887		
Wichita Project	127	24,764	112,777						0.0	-		0	-	
Totals and Averages	1,123	190,456	1,699,527	2	46	3	33	18,706	10.5	27.1	41.6	173	11,007	22,647
REGION 6														
Billings Regional Office	3	518	1,162						0.0	-		0	-	
East Bench Project	281	39,232	269,709	2	11		14	168	51.0	40.8	26.0	357	623	494
Missouri-Osage Projects	282	30,486	360,535		8	1		6,026	22.2	53.9		16,714	27,559	
Missouri-Osage Projects	179	25,839	135,102		5		42	202	37.0	21.2	1,625	1,495	381	
Riverton Project	15	2,516	23,598	1	1		13	13	42.4	0.0	5,167	551	0	
Upper Missouri Projects	26	3,091	11,026						0.0	0.0		0	0	
Yellowtail Project	491	88,084	758,279		8				10.6	0.0		347	347	0
Totals and Averages	1,277	189,766	1,559,811	5	33	1	69	6,672	26.3	21.2	23.0	364	4,279	6,900
REGION 7														
Kansas River Projects	302	60,979	494,244	2	6		84	2,124	28.6	12.1	11.8	1,200	4,306	11,978
Nicholls-Lower Platte Projects	629	118,568	814,802	2	15		60	6,162	16.9	18.4	9.0	506	7,563	566
North Platte River Projects	22	3,154	15,905		1			12	62.9	73.7		754	1,271	
South Platte River Projects	4	398	9,688						0.0	0.0		0	0	
Totals and Averages	957	192,039	1,334,619	4	22		144	8,302	20.8	16.5	12.9	750	6,221	5,249
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (1961)	9,876	1,779,117	13,815,625	38	306	9	12,972	69,495	21.4	22.1	25.0	7,221	5,930	6,120
	7,438		15,215,253		357	12		90,162		24.1			5,926	

* FATALITIES INCLUDED IN TOTAL DISABLING

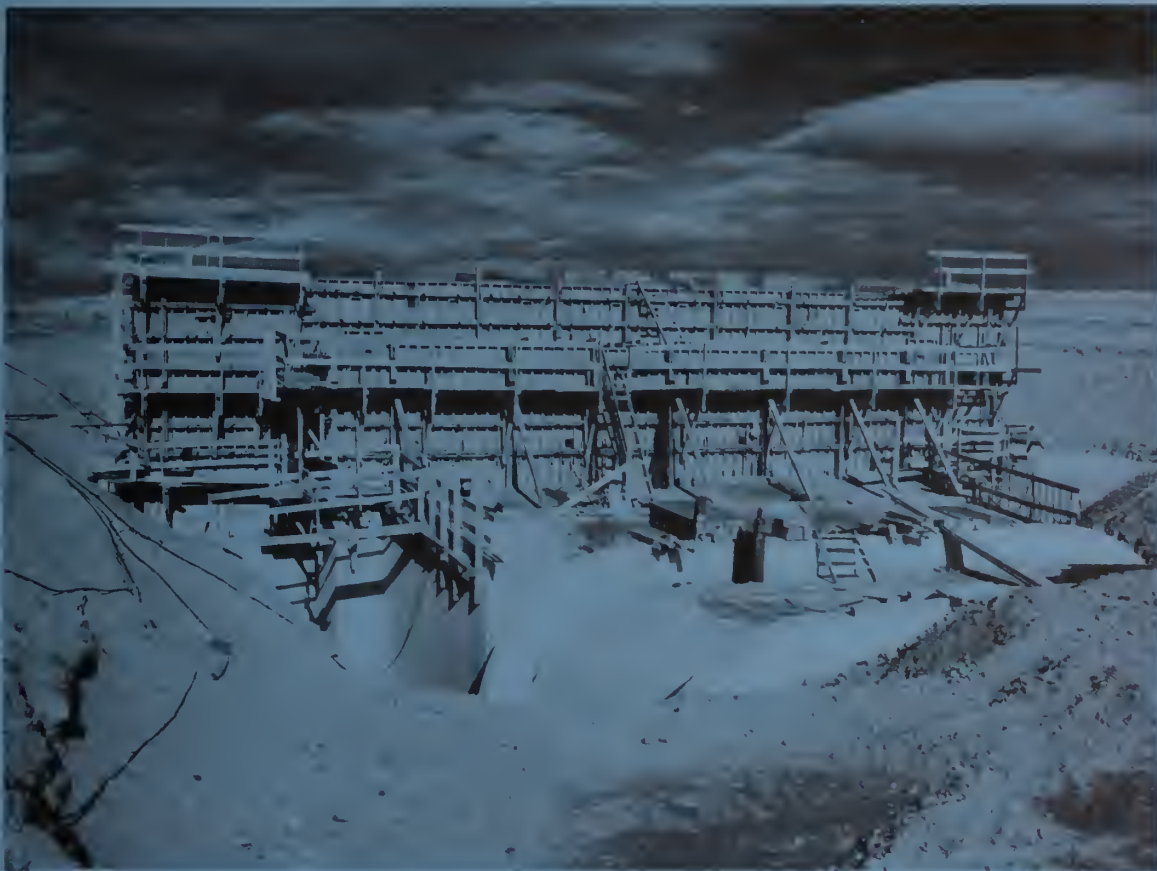
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SAFETY RECORD



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AND CHIEF ENGINEER

November 1962

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Front Cover Photo: Fontenelle Dam--Seedskadee Project, Wyoming. Intake structure forms. Note excellent scaffolds, ladders, and housekeeping. Reclamation photo P154-428-716B.

SAFETY RECORD is published monthly by the Office of Assistant Commissioner and Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES

January 1, 1962 - November 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Region 7	2.0	22	0.4	3.9
Region 4	5.4	2,281	123.2	2.4
Region 5	5.5	75	4.1	2.0
Region 2	6.0	1,816	109.0	4.6
Region 6	7.4	205	15.2	3.6
Region 1	7.8	307	23.9	1.6
Region 3	10.1	142	14.3	5.0
Alaska District	17.1	120	20.5	18.4

Totals to Date (1962)	5.3	751	39.8	3.4
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Totals Last Year	7.6	427	32.5	4.6
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*Injury index is equal to frequency rate time severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES

January 1, 1962 - November 30, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	12.4	12,542	1
Region 7	15.3	5,539	0
Region 4	17.5	3,075	3
Region 3	18.1	500	0
Region 6	21.0	3,969	1
Region 5	24.5	9,781	3
Region 2	38.1	3,511	1

Totals to Date (1962)	21.4	4,595	9
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Totals Last Year	24.1	5,926	12
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LOST TIME ACCIDENT ANALYSIS

Government Forces - 1962

Cumulative to Date:
November 30, 1962

A. ACCIDENT CLASSIFICATION

<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>	<u>Type</u>	<u>Description</u>	<u>No.</u>	<u>Days lost</u>
1	Railroad	1	6,000	14	Falls of Persons	28	7,453
3	Water Craft	1	135	16	Striking Against	2	14
5	Vehicles	3	22	17	Flying Particles	3	7
9	Electricity	1	45	18	Hand Tools	5	63
10	Flash Burns	1	4	19	Machinery	5	176
11	Dust-Chemicals	3	12	20	Not otherwise		
12	Handling Material	29	447		classified	22	558
13	Falling Objects	7	728		Totals	111	15,664

B. OPERATIONAL SUMMARY

<u>Operation</u>	<u>Man-Hours</u>	<u>No. of accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	4,762,768	5	753	1.0	158
Construction	5,437,275	25	12,877	4.6	2,368
Design	2,152,798	3	52	1.4	24
Investigation	2,706,393	21	1,074	7.8	397
O&M-Irrigation	2,586,270	31	348	12.0	135
O&M-Power	3,211,534	26	560	8.1	174
Totals	20,857,038	111	15,664	5.3	751

C. SERIOUS ACCIDENTS (Personal Injury)

<u>Date</u>	<u>Occupation</u>	<u>Description of accident</u>	<u>Days lost</u>
1-22-62	Gardener	Fell while carrying unsheathed axe	740
3- 3-62	Inspector	Raising safety strap, fell from pole	180
4- 9-62	Electrician	Fell from bushing on oil circuit breaker	96
5- 9-62	Drill Helper	Drill driver hammer struck hand	600
5-14-62	Survey Aid	Fell from bridge pier into river, drowned	6,000
6-14-62	Engineer	Contacted powerline with drill pipe	45
6-19-62	Engineer	Caught hand in air propeller (boat)	135
8- 3-62	Inspector	Struck by agitator car in tunnel	6,000
8-31-62	Inspector	Struck by drifting concrete bucket	270

ACCIDENT REVIEW

TRACTOR

Employer: Contractor

Activity: Dumping material.

Accident Situation and Occurrence: Operator was dumping material over edge of embankment with front-end loader tractor. After dumping the load, he neglected to place the tractor in reverse, and when he started up the machine went over the embankment. Employee jumped off, falling down the slope onto boulders and rocks. Received fracture to leg and arm. Time lost estimated at 90 days.

Cause Determination: Obviously the cause of this accident was failure of the operator to have tractor in proper gear. Operators of heavy equipment must be alert at all times.

DRILL BIT

Employer: Government

Activity: Loading drill bit.

Accident Situation and Occurrence: Employee was loading drill bits onto truck rack and struck his finger against sharp point of bit. Time lost was 3 days. Wearing gloves would probably have prevented this injury.

LIFTING

Employer: Contractor

Activity: Lifting water pump.

Accident Situation and Occurrence: The foreman was lifting a water pump into the bed of a pickup. His foot slipped causing a back strain. Time lost was estimated at 16 days. A mechanical hoist or more men should have been used to do the lifting.

INSTALLING FENCE POST

Employer: Contractor

Activity: Installing fence post.

Accident Situation and Occurrence: Employee was holding a fence post which a co-worker was driving with a post driving tool and was struck on the left hand. Received a fracture of the hand with lost time estimated at 21 days. Injured employee was holding the post too close to the top. Co-worker did not check to see where helper's hands were located before driving post.

BUILDING FORMS

Employer: Contractor

Activity: Building forms.

Accident Situation and Occurrence: Carpenter was engaged in building forms. While cutting sheet plywood with a power saw, a splinter flew up and struck him in the eye. Lost time was 7 days for the eye injury. The employee should have been wearing his goggles.

DOZER TRACTOR

Employer: Contractor

Activity: Runaway tractor.

Accident Situation and Occurrence: The operator had left his tractor parked facing uphill on a slope, with the motor running and the brakes set. Some time later, the unattended tractor started to move backwards down the hill. The operator then ran and jumped onto the machine in an attempt to stop the runaway tractor. He was fatally injured when the machine ran over his body.

Cause Determination: The causes of this accident may be attributed to the following:

1. Parking the tractor facing uphill, with engine running, and leaving it unattended.
2. The operator's attempt to jump on the runaway machine to try and gain control.

All dozer tractors, when being parked temporarily on slopes, should be faced downhill with the blade lowered and "dug in." No tractor should be left unattended on slopes while its engine is running.

VEHICLE SAFETY

WINTER DRIVING

Winter is approaching and with it comes the hazards of driving. Icy roads and frost on the windshield are very hazardous. By being a "little" more cautious and a "little" more courteous when driving, accidents can be prevented. That "little" can be important - a little less speed, a little more patience and a little more alertness. Put a little extra effort into your driving performance at all times, especially during the winter season.

Don't blame the weatherman. Make allowances for bad driving conditions. When driving to and from the dam, take an extra 10 minutes to make the trip. Your co-workers don't mind you taking that few extra minutes. They want to arrive home safely and will appreciate your safe driving habits.

Check your vehicle for ice scrapers. Drive with a clear windshield free of ice or frost.

--Wichita Project, Region 5

BETTER A BUM BATTERY

Some automobile owners apparently don't follow safety precautions when they check their cars. A man in Wyoming struck a match so he could check the water level in his car's battery. The battery exploded, throwing acid in his eyes. In Pennsylvania, another motorist ran a file across the two terminals to find out if the battery was charging. He, too, suffered acid burns when the battery blew up.

--NSC Traffic Safety

MARK OF DISTINCTION

In British Columbia, cars equipped with seat belts are sporting green reflective, self-adhering triangles on their rear left bumpers. The triangles which bear the identification "Seat Belt Equipped," are provided by the British Columbia Safety Council. They are furnished to the automotive trade for use when installing seat belts, to firms which install seat belts in company vehicles or conduct employee campaigns, to service clubs, women's and other groups, and to the Provincial Government which has had a continuing seat belt program for several years.

--NSC Traffic Safety

Durango Projects Office: The employees attending toolbox safety meetings this month were instructed in winter driving. Various road conditions, mostly hazardous, will be encountered during the next 4 months and every safety practice at our command will be used to aid employees in maintaining a safe driving record.

Red Bluff Office: At the monthly safety meeting, Construction Engineer D. R. Alexander asked how the training program was coming with respect to new Bureau employees getting a driver's license. Mr. Berry stated that it is required of all personnel to have a valid State of California driver's license, prior to making application for a Bureau license. With the aid of Mr. Forshay, testing of physical fitness together with practical road test has been given each employee before identification card is issued.

Tracy Field Division: Twenty-two employees completed the Defensive Driving Training Course with 12 taking the course as refresher training.

* * * * *

LIFTING

It should be realized that while lifting is a simple process, it still accounts for 15 to 20 percent of all accidents. Things we should remember to avoid injuries from lifting are:

1. Size up the load - too heavy, awkward to carry - if so, get help.
2. Get a good balance - space your feet 8 to 12 inches apart.
3. Stand close to the object being lifted.
4. Bend the knees and squat (don't stoop).
5. Use the leg muscles as you lift, keep the load close to your body.
6. Turn your body with change of foot position to avoid twisting your back.

Good housekeeping is also an important part in preventing injuries while carrying a load. Many injuries occur due to persons tripping over objects on the floor while carrying a load.

--North Side Irrigation Field Division

* * * * *

FROM THE FIELD

Canadian River Project: The Project Office has received the new edition of Safety Requirements for Construction by Contract. The Project Safety Officer stated he was preparing lectures on the manual to present to inspection personnel and after the material has been covered, an examination would be given.

Canyon Ferry Project: The annual fire inspection committee pointed out several items to be corrected, which could improve safety conditions within the camp.

Wichita Project: Regular inspections were made of the work area and discussions held with the contractor supervisors concerning unsatisfactory conditions. Agreement was reached on each item and unsafe conditions corrected, in most cases, within 24 hours. Voltage warning signs have been placed on the shop crane. Also a sign "Goggles must be worn" was placed at the bench grinder.

Chief Joseph Dam Project: Our first contractor's accident in nearly 7 years was discussed and steps were taken to prevent similar accidents. The Safety Officer contacted the injured driver of the pickup at the hospital to learn the details. The contractor was also contacted in regard to the accident and preventive measures outlined.

Norman Project: Review of the manual Safety Requirements for Construction by Contract was continued and mimeographed sheets were prepared on sections pertinent to the contract work operations.

Boulder Canyon Project: Project Manager L. J. Hudlow opened the meeting and, using a prepared chart, showed a comparison of the Project accident records of 1961 and 1962 to date. The Project showed seven lost-time accidents in 1961 and three in 1962. He attributed this improvement to greater safety efforts on the part of all the foremen. The need for a further reduction in 1963 was stressed.

Canadian River Project: A new 16,000-cubic-foot-per-minute (cfm) combination heater and fresh air blower has been added to the tunnel ventilation system by the contractor. Ventilation systems now installed have a capacity of 32,000 cfm; sufficient to maintain an adequate supply of fresh air to all points in the tunnel.

North Platte River Projects: At the November meeting of the Project Safety Council, the following recommendations were made: Issuance of a memorandum regarding the installation of seat belts and their use while traveling in a Government vehicle. Make first aid training available to the engineering trainees where such training can be worked into their present program.

Kansas River Projects: The Almena Unit Safety Committee met on November 29. The main topic discussed was the provision by the contractor on Norton Dam for either automatic signaling devices or flagman at haul road-railroad intersections. Flagmen are being used at present. The contractor is contemplating the building of an automatic signaling device to eliminate the need for flagmen.

Folsom Field Division: The Plant Maintenance Branch held weekly Monday morning tailgate safety meetings conducted by each foreman. Topics centered around the present annual overhaul activities of the Folsom main units.

Niobrara-Lower Platte Projects: Project contract administrative and inspection personnel continued their review and study of the new edition, Safety Requirements for Construction by Contract. A review questionnaire form has been prepared and furnished Construction Engineers for use to determine individual proficiency and knowledge of the provisions by their personnel.

Parker-Davis Project: During the month, both general and "toolbox" variety safety meetings were conducted throughout the Project area. Interest in the "toolbox" meetings seems to remain at a high level even though experience has indicated that programs of this nature tend to go "stale" unless some variations are occasionally introduced.

Colorado River FW&LS: Subject material for weekly toolbox meetings included: (1) Hard hats; (2) Good housekeeping; (3) Use of face mask respirators when painting in confined areas; (4) Handbook "How to Help the Injured Employee"; (5) Use of safety goggles on sandblasting operations; (6) Need for wearing gloves when handling slings; (7) Use of jacks, chain hoists, and portable tools pertaining to garage work; (8) Precautions necessary when using electric arc welder; (9) Proper method of mounting grinding wheels on spindles.

San Luis Unit: Items discussed at toolbox meetings were: (1) Report every injury and get first aid; (2) Safe driving practices for all conditions; (3) Danger of metal chips while driving frost pins; (4) Safer ways to perform your job; (5) Safety instructions to new employees; (6) No horseplay on the job.

Curecanti Unit: The contractor (Tecon Corporation) on Blue Mesa Dam reported the following subjects were discussed at weekly toolbox meetings: (1) Working on steep slopes; (2) Working around heavy equipment; (3) Man-haul operations; (4) Blowing drill holes; (5) Care in using electric saws; (6) Causes and high cost of accidents.

Glen Canyon Unit: All contract administration personnel, field supervisors and inspectors employed by this unit have received a copy of the new edition "Safety Requirements for Construction by Contract." The manual is also being reviewed and brought to the attention of field personnel at safety meetings.

Minidoka Power Field Branch: It was reported that in addition to metal filings entering protective welding and grinding hoods when they are left on the floor, it was discovered that exhaust from the air grinder was forcing the filings between the sliding eye shield and the protective hood. The eye shield edges are now being taped to prevent this from happening. Last month an incident occurred in which metal chips lodged in the eye of an employee while grinding.

* * * * *

MATERIAL FOR TOOLBOX MEETINGS

Do you have a problem of maintaining continued interest in the weekly 5-minute toolbox safety meetings? The following National Safety Council publications have been found to be considerable help in maintaining interest and getting effective results from these meetings:

- Five-Minute Safety Talks for Foremen
- Five-Minute Safety Talks for Construction and Maintenance Foremen
- Thirty Short Safety Talks for Tailboard Meetings - Public Utilities
- Five-Minute Safety Talks for Driver Supervisors

Some projects revise and reproduce the individual talks for distribution to field supervisors as a guide in conducting the Monday morning meetings.

The above pamphlets are inexpensive and may be obtained from the National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois.

WATER SAFETY

Durango Projects Office: The construction of a fence on each side of the inlet chute to Jackson Gulch Reservoir of the Mancos Project was started this month with hope of completion during December. The purpose of this fence is to prevent the public from access to the chute. With a drop of 100 feet in 400 feet, the water in this chute has a high velocity. If a person should fall into the chute, he would have very little chance for survival.

Region 4: Two evening meetings of the Cache County Water Safety Council were held at the Logan Development Office on November 9 and 30. Representation was present from most of the local civic and service clubs, sports clubs, and several City, State, and Federal agencies. Mr. Ted Tuttle, Boating Supervisor of the Utah State Parks and Recreation Commission, was present at the November 30 meeting. He presented the highlights of the Utah State Boating regulations, reviewed the progress of their program over the past few years, and suggested ways in which our Water Safety Council could correlate our activities with their program.

Niobrara-Lower Platte Projects: Members of the Sherman-Howard County Water Safety Council met November 13 in the County Court House, St. Paul, Nebraska. A film titled, "Boats, Motors, and People" was shown to the 18 members present. Election of officers for a 2-year term (1963-64) was held.

Missouri-Oahe Projects: Mr. Persson, Angostura O&M Office, reported that the new signs for the irrigation system would be installed this winter. The installation of protective features on structures should also be started before the next irrigation season.

Region 3: The protective measures which are being installed on structures of the canal systems under the jurisdiction of the Bureau are progressing very satisfactorily. Most of the guardrail has been completed on the Gila Gravity Main Canal. Some chain-link fencing remains to be installed and the placing of signs in these areas is not complete.

Bureau of Reclamation
Denver Federal Center

IRRIGATION OPERATORS' WORKSHOP--1962

Operation and Maintenance Safety
Howard S. Latham, Chief Safety Engineer
U. S. Bureau of Reclamation

A. Introduction

It is indeed a pleasure to have the opportunity to participate in this workshop. As irrigation operation and maintenance supervisors, your primary concern is to store and distribute irrigation water as efficiently and as economically as possible. In fact, your attendance at this irrigation workshop is no doubt primarily for the purpose of reviewing and studying methods of improving operation and maintenance; which will in turn result in reduced cost per acre-foot of water distributed. Unquestionably, this is an oversimplification of the objectives sought from the workshop. However, any practical plan for reducing operating costs or holding the line in this era of rising costs would no doubt be welcome.

I intend to explore with you the possibility of improving operational efficiency and reducing costs through the application of practical safety measures. During my discussion, I will cover two phases of Safety in its application to the operation and maintenance of Irrigation Projects. First, I wish to point out the potential saving which can accrue to a district through adoption and application of a practical employee safety program. Secondly, I plan to enumerate the benefits which can be derived from an effective public safety program.

B. Employee Safety

1. Irrigation and maintenance operations within the Bureau of Reclamation during calendar year 1961 contributed to 55 lost-time or disabling injuries; and 1,466 days lost time. For those of you who are familiar with accident statistics, the lost time accident frequency rate for irrigation O&M was 16 accidents per million man-hours, while the Bureau average for all operations was 7.6 accidents per million man-hours. In other words, based upon Bureau experience, irrigation operation and maintenance activity is experiencing twice as many disabling injuries as overall Bureau operations. You may also be interested in the surprising fact that the accident rate for irrigation O&M operations exceeded Bureau contractor accident experience on many of our major construction projects. Obviously, since irrigation operations are comparatively less hazardous, there can be only one answer. Our safety program has been less effective in producing desired results in irrigation O&M operations. However,

I am pleased to report that since speaking to the previous workshop in December 1961, we have reduced our irrigation O&M accident frequency one-third; resulting in a direct saving of \$7,000 in reduced accident costs.

While the foregoing accident statistics pertain to Bureau operations, it is very probable that the accident experience within the districts is similar or less favorable, dependent upon their safety effort.

2. What is the dollar cost? On the basis of current injury costs obtained from the Bureau of Employees' Compensation, the average disabling injury results in a cost of \$501 in medical and compensation costs. Applying this figure, the 55 disabling injuries resulting from irrigation operations cost the Bureau of Reclamation \$27,555 during 1961. Since these direct costs are insurable, those of you representing irrigation districts may not be vitally concerned with these costs. However, according to accepted authority, the average hidden cost of a disabling injury results in a loss four times greater than the direct cost. These related costs are represented in damaged equipment and materials, loss of use, time lost by others, interruptions in operation, etc. If the estimate is correct, each disabling injury results in a loss of \$2,000 over and above the insurable loss.

3. Effect of Accident Experience Upon Insurance Premiums

Also pertinent, and of concern to Irrigation District supervisors is the effect of an adverse accident experience upon compensation insurance costs. During the past year I canvassed the various State Workmen's Compensation Rating Bureaus in order to obtain insurance compensation rates applicable to irrigation operation and maintenance operations. You have before you an information sheet showing the rates obtained from eight states in Regions 2, 3, and 5. You will note that the rates vary from a low of \$1.48 per hundred of payroll to a high of \$4.50. The variation in the rate is largely dependent upon the medical and compensation benefits available to injured employees in the respective states.

Again referring to the report, the important item to note is that with one exception, every state listed has an experience rating provision in its compensation insurance rating plan. Experience rating is a merit rating plan under which previous year's loss experience is used to develop an experience modification which is applied to the premium developed under the manual rate. In some states this can result in a 60 percent reduction in insurance premiums, depending upon the insured's accident experience. While usually restricted to large operations, five of the eight states also have a retrospective insurance rating

plan, providing additional premium savings for a good accident experience.

How does experience rating affect you? Assuming your District is eligible, following is an example of the savings that can be derived under a typical experience rating plan:

- a. Assume a district has approximately 25 employees with an average annual payroll of \$100,000.
- b. Further assume that the manual rate is \$3 per hundred dollars of payroll, with provision for a 50 percent experience rating credit.
- c. Then, conceivably, a good safety program with a favorable accident experience, could result in a saving of \$1,500 per year, or $1\frac{1}{2}$ percent of the district's total payroll. This 50 percent reduction in compensation insurance premium, while not appearing to be a large amount, would:
 - (1) Adequately cover the cost of a safety program;
 - (2) Pay a ditchrider's wages for several months; and
 - (3) More important, assuming an average O&M cost of \$5 per acre per year, it would defray the cost of delivering water to 300 acres during the water season.
 - (4) Also, this tangible saving will provide adequate protection from possible public liability and property damage claims:

4. Additional Benefits Accruing from an Effective Safety Program

Based upon a national survey, organizations having effective safety programs have found that, in addition to dollar savings, they derived the following benefits:

- a. Absenteeism was reduced.
- b. Labor turnover was reduced.
- c. There was a noted improvement in their operating efficiency.
- d. There was a higher regard for the organization in the community.

I believe that everyone present will concur that these are worthwhile achievements; particularly the last mentioned. Further, let's

not lose sight of the fact that over and above the tangible and intangible benefits pointed out: Every employer has a moral responsibility for the protection of the health and safety of his employees.

5. How to Achieve the Above Benefits

I will briefly outline what steps we have found effective in curtailing job injuries and reducing accident costs. The reduction in accidents during the past year within the Bureau reflects the application of the following practical accident prevention measures:

- a. Top management must be sold on the safety program and actively endorse it. (Involvement and participation.)
- b. Each new employee should receive proper indoctrination in his job, pointing out the attendant hazards and safety requirements. Preferably, the indoctrination should include a one-page release stating the District safety policy, stipulating pertinent safety rules, and how to report an injury.
- c. It is recommended that a preemployment physical examination be given each new employee in order to determine if he is physically capable of performing his assigned duties. This is particularly essential for employees operating heavy equipment or vehicles.
- d. Organize a safety committee, consisting of a few top supervisors, who meet monthly to review the safety record and determine safety policy.
- e. Provide for "on-the-job" safety meetings conducted each week at a specified time by foremen and supervisors. These meetings should not exceed 10 minutes and preferably be 5-minute meetings, conducted each Monday morning. (Most important.)
- f. Provide first-aid instruction for all field supervisors and ditchriders, in order to:
 - (1) Promote a safe work attitude.
 - (2) Properly administer emergency care to injured employees or to the public. What better public relations than a newspaper byline such as "Irrigation District employee saves life of 5-year-old child, who fell into canal." Further, only immediate first aid can prevent death or serious injury resulting from arterial bleeding, stoppage of breathing, or poisonous snakebites. It also insures against mishandling of the injured, reducing the possibility of more extensive injury.

- (3) Either a Bureau of Mines or American Red Cross (10-hour) course in first-aid instruction is recommended.

6. Initiating the Above Safety Program

I have listed six steps which have proven effective in reducing on-the-job accidents with consequent benefit to both the employer and the employee. All of these accident prevention measures are essential to an effective safety program. Further, they are within the ability of any reasonably competent management. The investment is comparatively small as compared with the tangible benefits. Since the large majority of accidents are preventable, the application of the above measures will produce a marked improvement in your loss record.

As the administrative representatives of the Federal Government, we are concerned with any matter that affects the cost of irrigation water or results in adverse public opinion toward Reclamation. A poor accident record, or ineffective, slipshod, hit and miss, safety measures, result in both higher operating costs and adverse public relations.

Therefore, we readily accept our obligation to assist in this humanitarian effort, and extend to the districts the following offer of assistance in their safety effort:

- a. Each Bureau region employs a full-time safety engineer, who will be most willing to assist any irrigation district initiate an effective safety program. He can be particularly useful in drafting a safety program, providing first-aid training, and securing material for the conducting of weekly "tool-box" safety meetings. This assistance may be requested through any Bureau project office.
- b. Under an existing agreement with the U. S. Bureau of Mines, we are training key Bureau personnel as qualified first-aid instructors. Every Bureau project now has, or shortly will have, qualified first-aid instructors. These instructors are available to the districts to instruct their employees in the Bureau of Mines 10-hour course in first aid.

C. Public Safety

The problem of public drownings on Reclamation projects is becoming a matter of considerable concern to those of us engaged in the operation of these properties. During the first 9 months of 1962, 82 adults and children have drowned in reservoirs and canals constructed by the Bureau of Reclamation.

The record indicates that 31 of the drownings occurred in irrigation canals and laterals operated by the Bureau or irrigation districts. While most of the drownings in canals and laterals were the direct result of trespass and wanton disregard for their own safety, we cannot afford to become complacent about the situation. In fact, it is becoming more and more evident that we must initiate positive measures in order to reduce this annual toll of drownings. The public, through the media of the press, demands it: The potential loss resulting from successful claims against the Government and the districts demand it: And, more important, our own conscience demands it.

1. Preventative Measures

a. Policy.--For many years the Bureau of Reclamation has recognized the hazards incident to the operation of waterways and appurtenant works. In 1952, a Canal Safety Bulletin was prepared and distributed for the purpose of informing Bureau personnel and others responsible for the development and operation of these facilities of recommended safety measures. The bulletin summarized protective measures incorporated in the design and operation of the facilities for the protection of the public. You may have a copy of this bulletin entitled "Canal Safety," which was revised in 1958.

b. Design.-- During the past year the Bureau has revised its design standards for canals and related structures. Specific provision for protective features such as guardrails, fencing, siphon inlet guarding, etc., was incorporated in the design revisions. Further, these protective devices are being installed on existing Bureau-operated facilities as funds become available, in order that these structures also meet the criteria required for protection of the public. I would suggest that the districts acquire and review our design standards and consider taking similar action.

c. Public education.--Operation Westwide, jointly sponsored by the Bureau and the American Red Cross, is a method of securing active public cooperation and support in setting up and carrying out an effective water safety campaign. Representatives of the two agencies first solicit the help of public spirited individuals in communities adjacent to Reclamation projects, such as: heads of sportsmen's clubs, the PTA, boating clubs, youth organizations, service clubs, publishers, and law enforcement agencies. These individuals are apprised of the objectives of the program, and with their aid a water Safety Council is organized; usually at a public meeting. As a result, various committees are formed within the Safety Council, such as committees on: boating safety, youth education, including instruction in swimming and life saving conducted by the American Red Cross; and a publicity committee

concerned with appropriate newspaper, TV, radio, and other publicity media.

Through these local Water Safety Councils, the public becomes an active participant in the effort to reduce drownings. In this manner, they are fully apprised of the problem, in an endeavor to encourage them to share the responsibility for prevention of drownings.

This type of program, setting up a "joint-venture" with the community, so to speak, has proven more effective than shouldering the burden ourselves. However, we have and will continue to do the latter where necessary. For instance, in the Kansas River District our safety representative showed first-aid and boating movies and spoke to over 6,000 school children last year.

Those of you representing irrigation districts have a stake in this venture, as well as a responsibility to assure its success. If you are not already doing so, I ask that you actively participate in helping the Bureau and American Red Cross organize local water councils in your area. Further, if you are interested in organizing a water safety council in your district, I suggest you contact the Bureau Regional or Project Office for information and assistance. The Bureau of Reclamation needs and solicits your help in this worthwhile and rewarding endeavor.

2. Public Liability Suits

Unfortunately, in spite of the efforts taken to prevent them, public drownings will occur. These will largely result from carelessness and willful disregard for the measures we may have taken for the protection of the public. However, there will be times this is not the case, and the Government or the district may be involved in a suit for damages. This possibility is further enhanced by a growing tendency on the part of some individuals to sue for damages. Some have been successful and the sums obtained were substantial. It is conceivable that a judgment in the amount of \$100,000 or \$200,000 could bankrupt an irrigation district. Since this is an ever present possibility, it appears a matter of both common sense and good business to protect yourself against the consequences of such actions.

There is a practical and comparatively inexpensive method of eliminating this possibility through public liability and property damage insurance. I am aware that some of the irrigation districts are doing this; but also that others are not. Therefore, I contacted several insurance companies in order to obtain what information I could regarding the availability and cost of this type of

insurance. I learned that public liability and property damage insurance could be obtained covering irrigation operations and maintenance operations at comparatively low rates. In the belief that some of you would be interested in this information, I included it on the information sheet which was distributed to each of you.

From the information obtained, it would appear that the average irrigation district could obtain insurance in adequate limits to protect against suits for bodily injury or property damage for approximately one-quarter of 1 percent of their annual payroll. It was previously pointed out how it was possible to reduce your compensation insurance coverage by an amount equal to $1\frac{1}{2}$ percent of your payroll through an effective safety program.

It should be pointed out that under the repayment contract with the Government the district assumes liability for suits arising from the operation and maintenance of the irrigation facilities. Therefore, I would personally recommend that each of you, who have not previously done so, investigate the feasibility of securing insurance protection for your district.

D. Conclusions

During my talk I have attempted to:

1. Point out the need for an aggressive safety program in irrigation operation and maintenance operations.
2. Outline an effective plan for reducing the number of injuries occurring to your employees and to the public.
3. To acquaint you with the benefits, both tangible and intangible, which can be derived from a concerted safety effort. Obviously, these desired benefits can only be achieved through action on your part.

In this regard, I am reminded of a remark attributed to Nicholas Murray Butler, when he was president of Chicago University. He said that people could be placed into three classes: The few who made things happen; the many who watch things happen; and the overwhelming majority who have no idea of what happened. A good safety record does not just happen; it has to be made to happen. I hope each of you present will resolve to make it happen in your district. You will find that the benefits and personal satisfaction gained, far outweigh the effort expended.

IRRIGATION OPERATORS' WORKSHOP--1962

Information Sheet

November 1, 1962

Subject: Workmen's Compensation and Public Liability Insurance for
Operation and Maintenance of Irrigation and Water Districts

I. WORKMEN'S COMPENSATION RATING INFORMATION--1961-1962

(Coverage revisions and current rates are available from State Industrial Commissions.)

State	Classification	Code	Base rate	Experi- ence rating	Retro- spective rating
Arizona	Irrig. Works--O&M	0251	\$1.96	No*	No
California	"	0251	2.40	Yes	Yes
Colorado	"	0251	1.88	Yes	Yes
Nevada	"	3004	4.00	Yes	No
New Mexico	"	0251	2.32	Yes	Yes
Oregon	"	6609	4.50	Yes	No
Texas	"	0251	2.43	Yes	Yes
Kansas	"	0251	1.48	Yes	Yes

*Arizona--Provision for annual distribution of dividend based on individual loss record.

Notes:

Rate: Applied to \$100 of payroll.

Construction--Operations: Average 3 to 4 times operation and maintenance rates.

Experience Rating Plan: Merit rating plan under which previous year's loss experience of the particular employer is used to develop an experience modification to apply to the premium developed under the manual rate. Can result in as high as a 60 percent premium reduction in some states. States have varying eligibility requirements such as a minimum experience period and a minimum premium requirement.

Retrospective Rating Plan: A rating plan which permits adjustments in the final premium, variable between a specific minimum and maximum percentage of the standard premium, applied on the basis of an insured's loss experience. Usually applicable to large operations developing considerable premium.

II. PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

(Obtainable for Operation of Irrigation and Water Districts)

A. COVERAGE:

1. Bodily Injury Liability: To pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of bodily injury, sickness, or disease, including death, at any time resulting therefrom, sustained by any person and caused by accident.

2. Property Damage Liability - Except Automobile: To pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of injury to or destruction of property, including the loss of use thereof, caused by accident.

B. TYPICAL LIMITS AND RATES

(Obtained from two major Insurance Companies)

<u>Coverage</u>	<u>Limits</u>	<u>Rate</u>	<u>Minimum Premium</u>
Bodily Injury Liability - \$100,000 ea. person) \$300,000 ea. accident)		\$.0924	\$77.00
Property Damage Liability - \$100,000 ea. accident) except Automobile \$100,000 aggregate)		\$.139	\$101.25
Contractual Liability Coverage Endorsement	as above	--	\$36.60

Notes:

1. Rate: Applied to each \$100.00 of insured's payroll.

2. Contractual Liability Coverage Endorsement: To cover liability assumed by the District by reason of the liability assumed under the repayment contract between the Government and the District. (Hold harmless clause.)

3. Automobile Property Damage insurance may be obtained for payment of additional premium.

4. Some insurance companies special rate these risks, and the premium is based upon their appraisal of the hazard involved. In all cases the insurable limits, rates, and acceptability will be largely dependent upon the underwriter's appraisal of the risk involved.

PLANT SAFETY SURVEY

The 1961-62 Personnel Policies Forum, sponsored by The Bureau of National Affairs, conducted a survey of 147 company executives to discover what is being done in the area of plant safety. Following is a summary of the results of the survey as published in the October 1962 *Survey No. 67 - entitled Plant Safety:

Administration of the Safety Program

Fifty-two percent of the companies have formal safety programs; with 65 percent of the larger companies (over 1,000 employees) having formal programs.

Fifty-two percent of the larger companies have separate safety departments under the administration of a safety engineer. The remaining companies place responsibility for safety in other departments, i.e., personnel-industrial relations, production and operations, engineering, insurance, etc.

Safety Committees

Eighty-two percent of the companies report the presence of a safety committee, with 79 percent of the committee meetings held on a monthly basis.

Stopping Unsafe Acts

Sixty-two percent of the companies report that the person responsible for safety has authority to stop operations he considers unsafe.

Promoting Safety

Posters and slogans, articles in the company house organ, and employee meetings are the chief methods used to promote safety.

Media Found Most Effective

Employee meetings, films, posters and slogans, and demonstration of unsafe acts, in the order mentioned, were reported to be the most effective media for getting safety across to the employees.

Cooperation of Foremen

Eighty-seven percent report that their foremen are receptive to company safety efforts. The majority report that the best way to sell foremen on safety is to stress the safety program as part of their job responsibility.

Safety Awards

Fifty-five percent of the companies report that awards for safe performance are given to employees. Various types of safety awards made are trophies or plaques, merchandise, jewelry, dinners, certificates of merit, cash, etc.

Disciplines Imposed for Safety Infractions

Just as employees are rewarded for safety performance, they are also penalized when they fail to observe safety rules, report 80 percent of the companies. In 55 percent of these companies, disciplinary action includes discharge.

Accident-Prone Employees

Sixty-eight percent of the companies attempt to identify accident-prone employees.

Safety Equipment

Special safety equipment is worn in virtually all companies surveyed, with only 5 percent of the companies requiring the employees to bear the full cost of the equipment.

Off-the-Job Safety

Just over half of the companies state that they have some sort of off-the-job safety program.

Evaluation of the Safety Program

Ninety-six percent of the companies make an attempt to evaluate the effectiveness of their safety programs. Virtually all these companies utilize company accident records to determine the programs' effectiveness.

*Survey No. 67 - Plant Safety, priced at \$1.00, is available from The Bureau of National Affairs, Inc., Washington 7, D.C.

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NATIONAL SAFETY COUNCIL PRESIDENT'S MEDAL

The National Safety Council President's Medal has been awarded to Mr. Loyd G. Vanderheiden, Bureau employee of the South Platte River Projects Office, Loveland, Colorado. Mr. Vanderheiden successfully resuscitated, by approved manual methods, Selmer G. Prescott on April 14, 1962.

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARYFORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH... November 30, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	235	37,600	439,744						0.0	0.0		0	0	
Denver Office and Laboratories	1,420	227,200	2,637,368	2				49	0.8	0.8		19	2,375	
Alaska District	33	4,858	58,292	1				7	17.1	61.2		120	1,759	
REGION 1														
Boise Regional Office	166	23,999	275,854						0.0	8.7		0	15	
Central Snake Projects	51	7,588	84,667	1				1	11.8	37.2		12	377	
Chief Joseph Dam Project	38	6,507	64,091						0.0	0.0		0	0	
Coeur d'Alene Project	14	2,493	12,577						0.0	—		0	—	
Columbia Basin Project	842	148,192	1,639,608	14				192	8.2	12.6		117	84	
Crooked River Project			3,150						0.0	0.0		0	0	
Hungry Horse Project	52	9,012	102,249	2				61	19.2	0.0		597	0	
Lower Columbia Development	40	5,586	66,428						0.0	—		0	—	
Minidoka Project	155	20,049	254,379	3				11	11.8	7.2		43	22	
Rogua Project	7	1,232	40,495						0.0	0.0		0	0	
SNAKE RIVER DEVELOPMENT	45	8,790	82,919	1				600	12.1	—		7,235	—	
The Dalles Project	30	5,280	56,810						0.0	57.8		0	289	
Upper Columbia Development	39	5,407	64,009						0.0	—		0	—	
Vale Project	25	3,773	33,832						0.0	0.0		0	0	
Yakima Project	30	4,535	49,299	1				3	20.2	14.7		61	924	
Totals and Averages	1,534	252,043	2,830,367	22				868	7.8	10.9		307	89	
REGION 2														
Sacramento Regional Office	614	98,240	1,144,168		8			78	7.0	5.9		68	130	
Folsom Field Division	65	10,831	128,490						0.0	0.0		0	0	
Fresno Field Division	152	24,320	283,040	1	5		3	64	17.7	14.1	123	226	1,297	
Shasta Field Division	114	18,583	218,889		1			96	4.6	21.9		439	158	
Tracy Field Division	183	30,167	344,684		3			87	8.7	5.6		252	528	
Distribution System Projects	23	3,651	49,922						0.0	0.0		0	0	
El Dorado Projects	40	6,400	84,072						0.0	10.8		0	12	
Klamath Project	35	5,968	77,823						0.0	22.3		0	212	
Lahontan Basin Project	40	6,400	99,064						0.0	0.0		0	0	
Red Bluff Office	113	18,080	163,866	1	1		13	13	6.1	—	719	79	—	
San Luis Unit	248	39,680	381,854						0.0	7.4		0	15	
Trinity River Division	246	39,360	520,244	2	3	1	12	6,012	5.8	7.1	305	11,556	96	
Willows Field Office	2	320	320						0.0	—		0	—	
Totals and Averages	1,875	302,000	3,496,436	4	21	1	28	6,350	13.2	6.0	93	1,816	255	
REGION 3														
Boulder Regional Office	131	22,008	239,800						0.0	0.0		0	0	
Boulder Canyon Project	155	26,168	301,376		3			89	9.9	23.1		295	376	
Colorado River FW and IS	81	11,845	137,698		3			52	21.8	34.0		399	731	
Parker-Davis Project	293	58,132	531,360		6			73	11.3	11.4		137	208	
Phoenix Development	81	13,563	110,356		1			1	9.1	—		9	—	
Southern California Development	6	1,104	1,032						0.0	—		0	—	
Yuma Projects	157	23,497	252,805	1	3		1	6	42.6	11.9	43	24	394	
Totals and Averages	904	156,517	1,576,427	1	16		1	224	6.4	10.1	18.0	6	142	269
REGION 4														
Salt Lake Regional Office	320	50,232	645,688		2			110	3.1	0.0		170	0	
Emery County Project	32	4,892	36,575						0.0	—		0	—	
Central Utah Projects	15	24,327	288,200		3			233	10.4	6.9		808	38	
Curcanti Unit	83	12,131	141,228		2	1		6,018	14.2	17.8		42,612	18	
Flaming Gorge Unit	156	22,188	275,530		1			270	3.6	0.0		980	0	
Glen Canyon Unit	352	62,952	646,946		3			782	4.6	6.7		1,209	79	
Navajo Unit	42	7,858	113,959		1			10	8.8	0.0		88	0	
Durango Projects	87	16,008	176,132		2			12	11.4	6.7		68	34	
Grand Junction Office	115	25,824	245,922		2			79	8.1	3.3		321	17	
Logan Development	15	2,489	26,477						0.0	0.0		0	0	
Sandskadee Project	73	12,090	153,675		1			45	6.2	0.0		293	0	
Transmission System Office	74	11,440	155,360		1			3	6.4	0.0		19	0	
Upper Green River Project	24	3,920	51,466						0.0	0.0		0	0	
Weber Basin Project	202	33,936	357,608						0.0	6.7		0	209	
Totals and Averages	1,716	292,897	3,314,716		18	1		7,562	5.4	3.8		2,281	45	
REGION 5														
Amarillo Regional Office	104	16,434	198,967						0.0	5.0		0	20	
Albuquerque Development	30	4,908	40,968						0.0	—		0	—	
Austin Development	78	11,080	123,721						0.0	8.0		0	272	
Canadian River Project	129	21,716	218,072						0.0	0.0		0	0	
Lower Rio Grande Rehab.	57	10,032	115,292						0.0	7.8		0	31	
Middle Rio Grande Project	240	36,341	468,511					36	8.2	15.4		77	181	
Norman Project	78	11,745	95,678						0.0	—		0	—	
Oklahoma City Development	25	3,846	48,391						0.0	0.0		0	0	
Rio Grande Project	267	44,004	549,805		5			27	9.1	25.8		49	376	
San Angelo Project	65	11,289	166,312		2			99	12.0	4.7		595	5	
Washita Basin Project	7	1,120	53,084						0.0	0.0		0	0	
Wichita Project	53	9,518	88,759		1			1	11.3	0.0		11	0	
Totals and Averages	1,131	182,033	2,167,560		12			163	5.5	13.1		75	170	
REGION 6														
Billings Regional Office	223	36,714	406,134		1			1	2.5	5.2		2	127	
Canyon Ferry Project	78	2,719	33,769						0.0	0.0		0	0	
East Bench Project	66	10,215	130,894						0.0	0.0		0	0	
Fort Pack Project	34	4,611	58,488		1			17	17.1	32.2		291	484	
Missouri-Oaha Projects	272	45,508	490,112		4			262	8.2	7.9		535	42	
Missouri-Souris Projects	134	21,785	238,045		1			6	3.9	3.8		23	23	
Power System Operations	39	6,240	72,640						0.0	0.0		0	0	
Riverton Project	33	4,671	52,721					42	19.0	0.0		797	0	
Upper Missouri Projects	34	14,082	181,709		4			35	22.0	12.9		193	1,346	
Yellowtail Project	114	18,068	199,072		2			24	10.0	0.0		121	0	
Totals and Averages	1,037	164,640	1,883,634		14			387	7.4	6.0		205	185	
REGION 7														
Denver Regional Office	163	26,080	301,288						0.0	0.0		0	0	
Denver Development	31	4,856	56,016						0.0	0.0		0	0	
Kansas River Projects	134	53,937	632,964		1			8	1.6	4.9		13	181	
Niobrara-Lower Platte Projects	125	50,240	587,200						0.0	13.4		0	72	
North Platte River Projects	293	46,881	544,401						0.0	3.5		0	26	
South Platte River Projects	174	27,340	324,226		4			45	12.3	7.7		142	7	
Fryman-Arkansas Project	30	6,399	6,399						0.0	—		0	—	
Totals and Averages	1,350	216,233	2,452,494		5			54	2.0	6.4		22	81	
CONSOLIDATED TOTALS	11,235	1,877,020	20,857,038	5	111	2	29	15,664	2.7	5.3	7.8	16	751	439
TOTALS LAST YEAR (1961)	10,472		21,258,640		162	1		9,076		7.6		427		

*FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962.... THROUGH November 30, 1962....

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	60	7,772	84,881	1	1		4	4	128.7	11.8	0.0	515	47	0
Columbia Basin Project	106	17,353	207,902		1			3		4.8	5.7		14	40
Coeur d'Alene Project	50	5,804	10,707							0.0	—		0	—
Crooked River Project			240							0.0	0.0		0	0
Hungry Horse Project			2,447							0.0	0.0		0	0
Minidoka Project	3	472	8,779							0.0	0.0		0	0
Bogue Project	23	1,896	33,347							0.0	40.9		0	842
Tule Project	156	23,117	119,516		4	1		6,037		32.5	—	50,512	—	—
Yakima Project	16	1,680	11,567							0.0	0.0		0	0
The Dalles Project	10	512	512							0.0	—		0	—
Totals and Averages	424	58,606	481,898	1	6	1	4	6,044	17.1	12.4	13.0	68	12,542	240
REGION 2														
Sacramento Regional Office			1,035							0.0	0.0		0	0
Distribution System Projects	59	7,732	104,207		5			121		48.0	61.4	1,161	1,275	—
El Dorado Distribution	130	23,819	241,386	1	12		16	122	42.0	49.7	39.0	672	505	338
Folsom Field Division			1,314							0.0	0.0		0	—
Francisco Field Division	30	3,922	4,362							0.0	—		0	—
Flamingh Project	17	2,218	40,259							0.0	0.0		0	0
Lahontan Basin Project	7	1,720	50,539							0.0	71.7		0	901
Red Bluff Office	295	54,256	248,404		4			149		16.1	—	600	—	—
San Luis Unit	69	4,923	15,204							0.0	—		0	—
Shasta Field Division			380							0.0	—		0	—
Tracy Field Division	5	360	4,368							0.0	702.7		0	7,027
Trinity River Division	842	133,283	1,519,888	8	64	1	80	7,443	60.0	42.1	40.7	600	4,897	3,524
Totals and Averages	1,424	232,233	2,231,346	9	85	1	96	7,835	38.8	38.1	42.8	413	3,211	3,139
REGION 3														
Boulder Canyon Project			1,626							0.0	30.5		0	1,679
Colorado River FW and LS	37	9,426	72,063							0.0	0.0		0	0
Parker-Davis Project	23	4,081	20,064		2			57		99.7	0.0	2,841	0	—
Phoenix Development			1,933							0.0	—		0	—
Yuma Projects	12	4,262	70,207		1			26		14.2	20.2	370	999	—
Totals and Averages	72	17,769	165,893		3			83		18.1	22.2		500	1,151
REGION 4														
Central Utah Projects	86	11,774	80,322	1	4		15	121	84.9	49.8	35.4	1,274	1,506	490
Curecanti Unit	303	63,154	396,276		6			258		12.1	322.4	651	6,770	—
Flaming Gorge Unit	618	91,031	1,602,890	1	12	1	90	6,542	11.0	7.5	7.7	989	4,081	676
Glen Canyon Unit	1,900	272,783	3,016,617	3	64	1	259	8,586	11.0	21.2	17.9	949	2,846	5,526
Navajo Unit	93	14,934	593,950		9			240		15.2	14.1	404	165	—
Navajo County Project	3	54	3,179							0.0	—		0	—
Florida Division	220	47,638	376,585	1	10		7	214	21.0	26.6	43.0	147	568	1,693
Grand Junction Projects	40	5,563	262,862		5			81		19.0	25.6	308	139	—
Headsakee Project	191	30,584	476,375		3			72		6.3	0.0	151	0	—
Upper Green River Project			1,328							0.0	—		0	—
Weber Basin Projects	405	70,258	448,928		14	1		6,210		31.2	20.3	13,833	560	—
Totals and Averages	3,829	607,773	7,259,312	6	127	3	373	22,324	9.9	17.2	17.0	610	3,075	3,416
REGION 5														
Amesbury Regional Office	2	156	1,390							0.0	96.2		0	192
Albuquerque Development			1,561							0.0	—		0	—
Canadian River Project	274	79,836	381,723		8			150		20.8	0.0		391	0
Lower Rio Grande Rehab.	301	29,277	262,390	1	7		55	100	34.1	26.7	16.0	1,879	381	32,086
Middle Rio Grande Project	7	420	21,431							0.0	11.5		0	223
Norman Project	53	10,036	25,206		2			21		79.3	—		831	—
Rio Grande Project	19	3,091	1,651							0.0	—		0	—
San Angelo Project	330	27,554	962,734		24	3		18,455		24.9	49.4	19,169	25,291	—
Washita Basin Project	5	226	105,230		6			35		57.0	37.1	333	833	—
Wichita Project	163	37,972	150,749							0.0	—		0	—
Totals and Averages	1,154	218,568	1,918,095	1	47	3	55	18,761	4.6	24.5	41.9	252	9,781	20,347
REGION 6														
Billings Regional Office	3	376	1,538							0.0	—		0	—
East Bench Project	284	31,009	300,718	3	14		127	295	96.7	46.6	29.4	4,096	981	455
Missouri-Caha Projects	212	27,067	387,602		8	1		6,026		20.6	51.2		15,547	22,438
Missouri-Souris Projects	49	5,067	140,169		5			202		35.7	19.9		1,441	358
Riverton Project	12	1,999	25,597		1			13		39.1	0.0		508	0
Upper Missouri Projects	17	1,124	12,150							0.0	0.0		0	0
Yellowtail Project	485	87,089	845,368		8			263		9.5	0.0		311	0
Totals and Averages	1,062	153,731	1,713,142	3	36	1	127	6,799	19.5	21.0	22.7	826	3,969	5,976
REGION 7														
Kansas River Projects	336	64,740	558,984		6			2,153		10.7	10.5		3,852	10,679
Midwest-Lower Platte Projects	274	103,680	918,482	1	16		20	6,182	9.6	17.4	7.9	193	6,731	496
North Platte River Projects	17	2,537	18,442		1			12		54.2	67.9		651	1,171
South Platte River Projects	10	1,424	11,092							0.0	0.0		0	0
Totals and Averages	937	172,381	1,507,000	1	23		20	8,347	5.8	15.3	11.4	116	5,539	4,658
CONSOLIDATED TOTALS														
		8,962	1,461,061	21	327	9	673	70,193	14.4	21.4	26.0	461	4,595	5,609
TOTALS LAST YEAR (1961)		7,438	15,215,793		367	12		90,162		24.1			5,926	

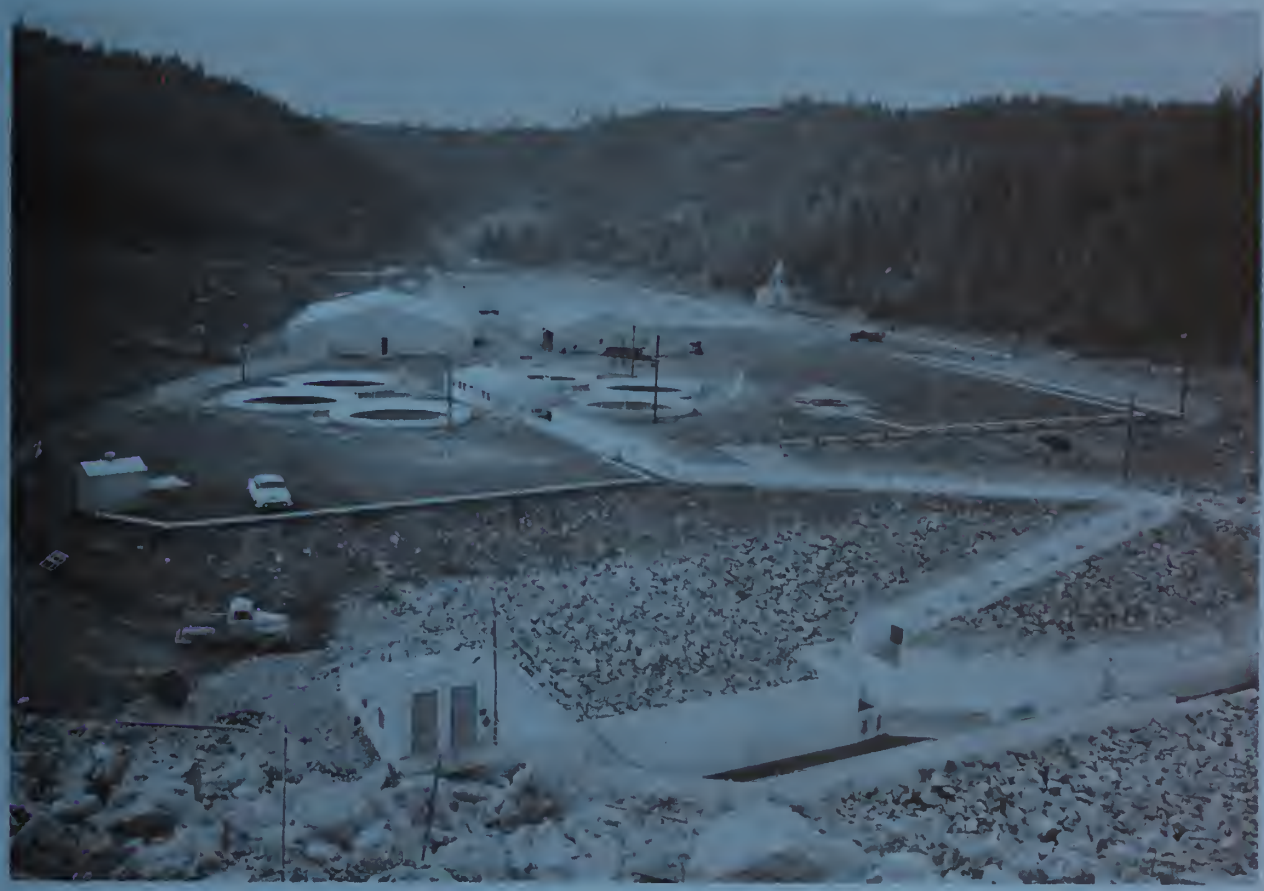
* FATALITIES INCLUDED IN TOTAL DISABLING





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SAFETY RECORD



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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December 1962

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Front Cover Photo: View of Trinity River Fish Hatchery from
Lewiston Dam. Central Valley Project.
Reclamation photo P416-229-11193.

SAFETY RECORD is published monthly by the Office of
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accident prevention.

1962 SAFETY REVIEW

As a direct result of the emphasis placed on the safety effort, Reclamation completed 1962 with the lowest Government and Contractor accident frequency in its 61-year history.

With but one exception, a marked improvement was made in all phases of safety: Bureau employees completed the year with an accident frequency rate of 5.2, representing the lowest rate in Reclamation history, and a 31 percent reduction in lost-time injuries as compared with the previous year. This exemplary accident record was marred by the fact that four Bureau employees lost their lives in carrying out their assigned duties. While one of these regrettable fatalities was the result of a plane crash, the other three were largely avoidable had the applicable safety standards been followed.

Contractor forces completed the year with an accident frequency rate of 21.4, also the lowest frequency rate for construction operations in Reclamation's history. Further, the severity rate of 4,652 represents a record low for the past 7 years, and is the fourth lowest in the 25 years since we started keeping Contractor accident statistics. The improvement made in the Contractors' accident record is doubly gratifying when you consider the extent and magnitude of the 1962 construction program.

Further, we can also take pride in the 16 percent reduction in the number of vehicle accidents as compared with last year.

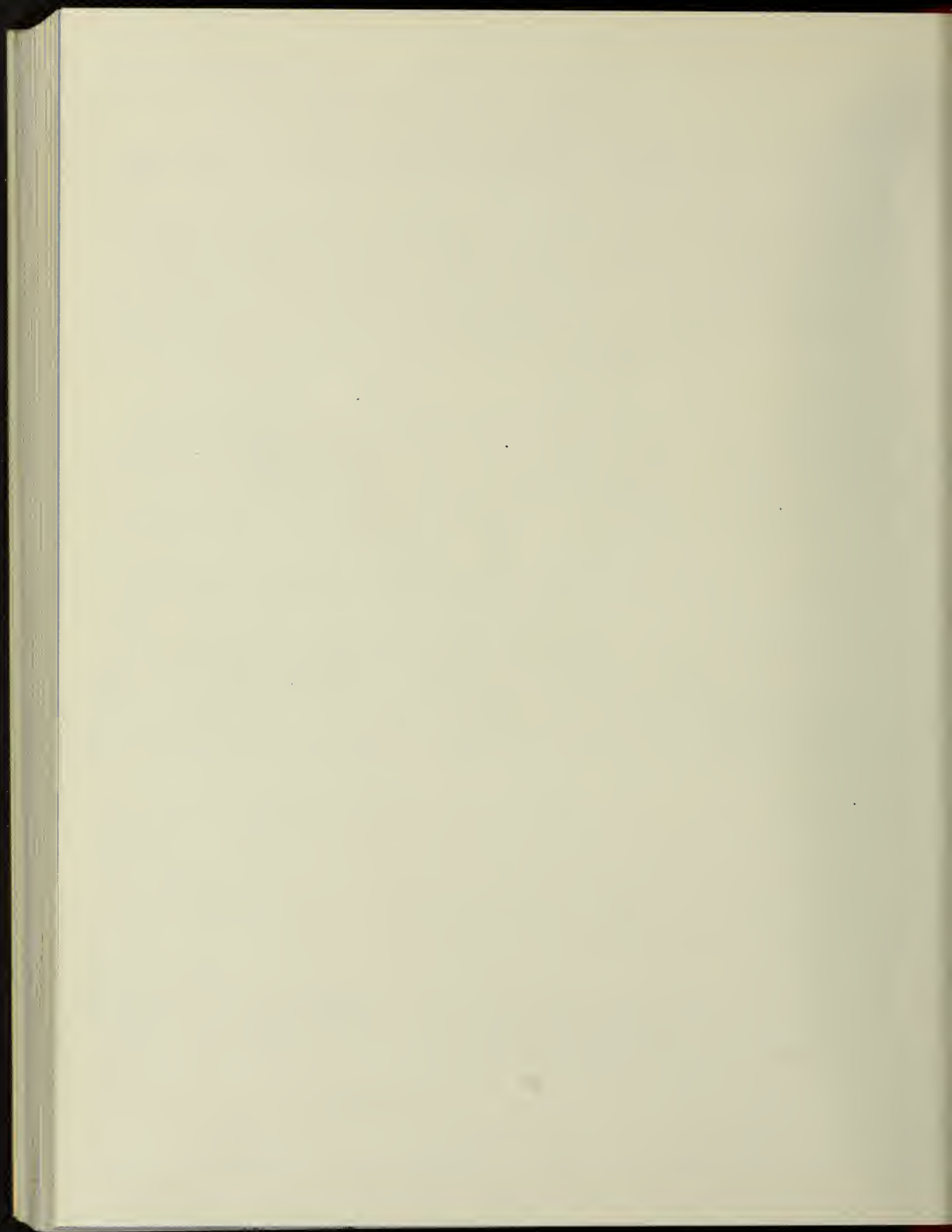
While the improvement in the safety record is commendable, there can be no room for complacency: Particularly while our accident experience suffers by comparison with others performing similar work and enjoying better safety records: For example, many construction firms, pursuing an aggressive safety program, are enjoying accident frequency rates of 5.0 or less. Several major Government agencies consistently report accident frequency rates below 5.0.

A review of our 1962 accident experience clearly indicates that the majority of the injuries reported by the Government and Contractors, occurred as a direct result of failure to adhere to the applicable safety rules and standards. I recommend that during 1963 all management and supervisory personnel, particularly Operating Office Heads, Division and Branch Chiefs, take aggressive action toward carrying out the safety provisions and standards contained in Reclamation Instructions, the Power System Safety Handbook, and Safety Requirements for Construction by Contract.

Aggressive leadership, reflected by management participation and involvement in the safety effort, will insure fulfillment of our objective of making Reclamation a safe place in which to work. I personally wish you every success in your efforts toward fulfillment of this humane and worthwhile objective during 1963 and the following years.

Grant Bloodgood

Assistant Commissioner
and Chief Engineer



BUREAU SAFETY PERFORMANCE

1962 CUMULATIVE SAFETY RECORD GOVERNMENT FORCES January 1, 1962 - December 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Injury* index</u>	<u>Vehicle accident rate</u>
Region 7	1.9	21	0.4	4.3
Region 4	5.3	2,116	112.1	3.0
Region 5	5.9	78	4.6	1.8
Region 2	6.1	1,687	102.9	4.3
Region 6	6.8	318	21.6	3.5
Region 1	7.2	283	20.4	1.7
Region 3	10.5	7,098	745.3	4.5
Alaska District	15.9	111	17.6	17.2
Totals to Date	5.2	1,238	64.4	3.4
Totals Last Year	7.6	427	32.5	4.6

*Injury index is equal to frequency rate times severity rate divided by 100.

1962 CUMULATIVE SAFETY RECORD CONTRACTOR FORCES January 1, 1962 - December 31, 1962

<u>Region</u>	<u>Frequency rate</u>	<u>Severity rate</u>	<u>Fatal injuries</u>
Region 1	13.2	11,386	1
Region 7	14.8	5,189	0
Region 4	17.0	3,653	3
Region 6	22.9	3,704	1
Region 5	23.5	9,015	3
Region 3	28.3	488	0
Region 2	38.3	3,315	1
Totals to Date	21.4	4,652	9
Totals Last Year	24.1	5,926	12

ACCIDENT EXPERIENCE SUMMARY--1962

The following is a narrative summary of the accident experience of Government and contractor forces during calendar year 1962.

GOVERNMENT FORCES

Frequency Rate: For 1962, the Government accident frequency rate was 5.2. Compared with the 7.6 rate for 1961, this represents a 31.6 percent reduction in the frequency of accidents.

Severity Rate: In 1962 the Government forces severity rate was 1,238, as against a severity of 427 in 1961. The number of days lost time was 27,996 compared to 9,076 in 1961.

Man-hour Exposure: The total man-hours worked by Bureau employees in 1962 was 22,611,294, an increase of 1,352,654 from 1961.

Lost-time Injuries: Government forces in 1962 had a total of 118 lost-time injuries compared to 162 in 1961.

Fatalities: In 1962 Government forces had four fatalities compared to one in 1961. Drowning, one; electricity, one; airplane crash, one; and struck by mixer car, one.

Type of Work Activity: The following table gives the accident experience of Bureau employees in relation to the major work classifications:

<u>Type of work</u>	<u>Man-hour exposure</u>	<u>Lost-time injuries</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	5,151,986	6	6,753	1.2	1,311
Construction	5,911,484	30	19,110	5.1	3,233
Design	2,327,731	3	52	1.3	22
Investigation	2,929,035	21	1,074	7.2	367
Irrigation	2,796,278	32	444	11.4	159
Power	3,494,780	26	563	7.4	161
Totals and averages	22,611,294	118	27,996	5.2	1,238

ACCIDENT EXPERIENCE SUMMARY--1962--Continued

CONTRACTOR FORCES

Frequency Rate: The 1962 contractor accident frequency rate of 21.4 represents a 11.2 percent reduction when compared to the 24.1 rate in 1961.

Severity Rate: In 1962 the contractor severity rate was 4,652. This compares with a 5,926 rate in 1961. The number of days lost time was 76,799, compared to 90,162 days in 1961.

Man-hour Exposure: Contractors worked a total of 16,509,276 man-hours in 1962. This represents an increase of 1,293,523 hours from the total in 1961.

Lost-time Injuries: Contractor forces had a total of 353 lost-time injuries in 1962 as against 367 in 1961.

Fatalities: In 1962, contractor forces sustained nine fatalities, three less than the total in 1961. Caught in conveyor belt, two; truck collision, one; run over by heavy equipment, two; overturning of heavy equipment, two; electricity, one; and struck by falling pipe, one.

Type of Work Activity: The following table summarizes the accident experience of contractor forces in relation to the major work classifications:

<u>Type of work</u>	<u>Man-hour exposure</u>	<u>Lost-time injuries</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Canals	3,271,212	80	7,230	24.5	2,210
Concrete Dams	5,357,075	82	27,315	15.3	5,099
Earth Dams	4,390,806	87	25,756	19.8	5,866
Tunnels	855,160	40	818	46.8	957
Transmission Lines and Sub-stations	1,555,941	43	13,000	27.6	8,355
Miscellaneous	1,079,082	21	2,680	19.5	2,484
Totals and averages	16,509,276	353	76,799	21.4	4,652

* * * * *

BUREAU OF RECLAMATION
GOVERNMENT FORCES
1962

ACCIDENT SUMMARY BY WORK ACTIVITY

Alaska District

<u>Major activity</u>	<u>Man-hour exposure</u>	<u>Lost-time accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Investigation	24,297	1	7	41.1	288
Power	38,541	0	0	0.0	0
Totals and averages	62,838	1	7	15.9	111

Denver Office and Laboratories

Design, etc.	2,853,208	2	49	0.7	17
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Washington Office

Administration	475,008	0	0	0.0	0
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Region 1

Administration	563,442	1	7	1.8	12
Construction	493,298	0	0	0.0	0
Investigation	304,179	1	600	3.3	1,973
Irrigation	729,613	11	90	15.1	123
Power	981,248	9	171	9.2	174
Totals and averages	3,071,780	22	868	7.2	283

Region 2

Administration	623,141	1	2	1.6	3
Construction	1,303,535	5	6,059	4.6	4,648
Design	132,090	1	3	7.6	23
Investigation	486,988	6	73	12.3	150
Irrigation	716,923	8	151	11.2	211
Power	522,329	1	96	1.9	184
Totals and averages	3,785,006	23	6,384	6.1	1,687

GOVERNMENT FORCES--1962

ACCIDENT SUMMARY BY WORK ACTIVITY--Continued

<u>Region 3</u>					
<u>Major activity</u>	<u>Man-hour exposure</u>	<u>Lost-time accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	385,501	2	6,001	5.2	15,567
Construction	268,670	4	6,055	14.9	22,537
Design	15,426	0	0	0.0	0
Investigation	142,295	1	4	7.0	28
Irrigation	118,615	2	2	16.9	17
Power	791,597	9	162	11.4	205
Totals and averages	1,722,104	18	12,224	10.5	7,098

<u>Region 4</u>					
Administration	1,009,184	1	740	1.0	733
Construction	1,648,904	11	6,483	6.7	3,932
Design	183,063	0	0	0.0	0
Investigation	636,383	7	351	11.0	552
Irrigation	71,577	0	0	0.0	0
Power	29,580	0	0	0.0	0
Totals and averages	3,578,691	19	7,574	5.3	2,116

<u>Region 5</u>					
Administration	530,174	1	3	1.9	6
Construction	657,104	4	117	6.1	178
Investigation	236,847	0	0	0.0	0
Irrigation	828,387	9	63	10.9	76
Power	98,592	0	0	0.0	0
Totals and averages	2,351,104	14	183	5.9	78

<u>Region 6</u>					
Administration	593,253	0	0	0.0	0
Construction	565,782	4	388	7.1	686
Investigation	415,072	5	39	12.0	94
Irrigation	161,458	2	138	12.4	855
Power	310,322	3	85	9.7	274
Totals and averages	2,045,887	14	650	6.8	318

GOVERNMENT FORCES--1962

ACCIDENT SUMMARY BY WORK ACTIVITY--Continued

<u>Region 7</u>					
<u>Major activity</u>	<u>Man-hour exposure</u>	<u>Lost-time accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Administration	610,036	0	0	0.0	0
Construction	485,879	1	8	2.1	16
Design	173,552	0	0	0.0	0
Investigation	583,166	0	0	0.0	0
Irrigation	150,041	0	0	0.0	0
Power	662,995	4	49	6.0	72
Totals and averages	2,665,668	5	57	1.9	21
Consolidated totals	22,611,294	118	27,996	5.2	1,238

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BUREAU OF RECLAMATION
CONTRACTOR FORCES
1962

ACCIDENT SUMMARY BY WORK ACTIVITY

Region 1

<u>Major activity</u>	<u>Man-hour exposure</u>	<u>Lost-time accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Canals	267,270	1	3	3.7	11
Tunnels	61,648	1	2	16.2	32
Earth Dams	139,182	4	6,037	28.7	43,375
Transmission Lines and Sub-stations	25,663	0	0	0.0	0
Miscellaneous	37,217	1	4	26.9	107
Totals and averages	530,980	7	6,046	13.2	11,386

Region 2

Canals	442,113	18	257	40.7	581
Concrete Dams	1,167	0	0	0.0	0
Earth Dams	705,831	23	526	32.6	745
Transmission Lines and Sub-stations	358,389	17	6,646	47.4	18,544
Tunnels	470,621	28	412	59.5	875
Miscellaneous	422,985	6	119	14.2	281
Totals and averages	2,401,106	92	7,960	38.3	3,315

Region 3

Canals	70,754	1	26	14.1	367
Concrete Dams	1,437	0	0	0.0	0
Earth Dams	496	0	0	0.0	0
Transmission Lines and Sub-stations	29,638	4	60	135.0	2,024
Miscellaneous	74,043	0	0	0.0	0
Totals and averages	176,368	5	86	28.3	488

CONTRACTOR FORCES--1962

ACCIDENT SUMMARY BY WORK ACTIVITY--Continued

Region 4

<u>Major activity</u>	<u>Man-hour exposure</u>	<u>Lost-time accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Canals	633,379	16	261	25.3	412
Concrete Dams	4,500,315	73	21,077	16.2	4,683
Earth Dams	1,801,559	27	6,494	15.0	3,605
Transmission Lines and Sub-stations	543,438	6	58	11.0	107
Tunnels	143,899	7	347	48.6	2,411
Miscellaneous	197,690	4	327	20.2	1,654
Totals and averages	7,820,280	133	28,564	17.0	3,653

Region 5

Canals	716,371	21	6,209	29.3	8,667
Earth Dams	1,326,027	26	12,550	19.6	9,464
Miscellaneous	43,065	2	33	47.5	784
Totals and averages	2,084,463	49	18,792	23.5	9,015

Region 6

Canals	235,871	11	317	46.6	1,344
Concrete Dams	767,867	6	224	7.8	292
Earth Dams	118,755	5	127	42.1	1,069
Transmission Lines and Sub-stations	580,522	16	6,236	27.6	10,742
Tunnels	142,256	3	55	21.1	387
Miscellaneous	34,470	2	4	58.0	116
Totals and averages	1,879,741	43	6,963	22.9	3,704

CONTRACTOR FORCES--1962

ACCIDENT SUMMARY BY WORK ACTIVITY--Continued

<u>Region 7</u>					
<u>Major activity</u>	<u>Man-hour exposure</u>	<u>Lost-time accidents</u>	<u>Days lost</u>	<u>Frequency rate</u>	<u>Severity rate</u>
Canals	905,454	12	157	13.3	173
Concrete Dams	86,289	3	6,014	34.8	69,696
Earth Dams	298,956	2	22	6.7	74
Transmission Lines and Sub-stations	18,291	0	0	0.0	0
Tunnels	36,736	1	2	27.2	54
Miscellaneous	270,612	6	2,193	22.2	8,104
Totals and averages	1,616,338	24	8,388	14.8	5,189
Consolidated totals	16,509,276	353	76,799	21.4	4,652

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PREVENTIVE MAINTENANCE - PREVENTIVE SAFETY

Should there be any real difference between the two programs PREVENTIVE MAINTENANCE and PREVENTIVE SAFETY? If you will be honest in your evaluation, there isn't. You will probably admit this; however, will you also admit that your mental approach to the two is not the same?

In the case of maintenance, you as a Bureau employee are indoctrinated with and believe that the philosophy of preventive maintenance eliminates costly breakdowns. Why shouldn't the Preventive Safety Program Approach work the same wonders of eliminating costly accidents. If you will agree that it should, and we are sure you will, give it a chance. Watch for and eliminate safety hazards in the same way you would watch for and eliminate potential maintenance problems.

--Region 5, Chief of Power

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LOST-TIME ACCIDENT ANALYSIS

GOVERNMENT FORCES--CY 1962

1. OPERATION

	<u>No. of accidents</u>
Administration	6
Construction	30
Design	3
Investigation	21
O&M Irrigation	32
O&M Power	26
Total	<u>118</u>

2. OCCUPATION

	<u>No. of accidents</u>
Administration, Office, and Clerical	5
Field Engineering and Surveys	22
Construction Inspectors	13
Laborers	21
Electricians and Linemen	11
Mechanics	20
Ditchriders	8
Powerplant Operators	2
Other	16
Total	<u>118</u>

3. AGE GROUP

	<u>No. of accidents</u>
18-25 years	13
26-40 years	53
41-60 years	44
Over 60 years	8
Total	<u>118</u>

4. LENGTH OF EMPLOYMENT

	<u>No. of accidents</u>
Temporary Status	1
Permanent Status	
Less than 1 month	1
1 month to 11 months	28
1 year to 5 years	36
Over 5 years	52
Total	<u>118</u>

5. CAUSE OF ACCIDENT

	<u>No. of accidents</u>
Mechanical or Physical	
Layout or procedure	34
Work area	4
Tools and equipment	7
Other	3
Personal Cause	
Unsafe act	80
Physical defect	2
Lack of knowledge or skill	4
Other	4

6. ACCIDENT CLASSIFICATION

<u>Type</u>	<u>Description</u>	<u>No. of accidents</u>	<u>Days lost</u>
1	Railroad	1	6,000
2	Aircraft	1	6,000
3	Watercraft	1	135
4	Elevators	0	
5	Vehicles	4	34
6	Pressure Equipment	0	
7	Explosions	0	
8	Fires	0	
9	Electricity	2	6,045
10	Flash Burns	1	4
11	Dust-Chemicals-Gases	3	12
12	Handling Material	30	453
13	Falling Objects	7	728
14	Falls of Persons	30	7,657
15	Jumping to or from places	0	
16	Striking Against Material	2	14
17	Flying Particles	3	7
18	Hand Tools	6	80
19	Machinery	5	269
20	Not otherwise classified	22	558
	Total	<u>118</u>	<u>27,996</u>

7. TIME EXTENT OF INJURY

	<u>No. of accidents</u>	<u>Days lost</u>
Temporary Total Disability	110	2,421
Permanent Partial Disability	4	1,575
Fatal	4	24,000
Total	<u>118</u>	<u>27,996</u>

8. SERIOUS ACCIDENTS (Personal Injury)

<u>Date</u>	<u>Occupation</u>	<u>Description of Accident</u>	<u>Days lost</u>
3- 3-62	Inspector	Raising safety strap, fell from pole	350
4- 9-62	Electrician	Fell from oil circuit breaker bushing	96
5- 9-62	Drill Helper	Drill drive hammer struck hand	600
5-14-62	Survey Aid	Fell from bridge pier into river	6,000
6-19-62	Engineer	Caught hand in air propeller (boat)	135
8- 3-62	Inspector	Struck by mixer car in tunnel	6,000
8-31-62	Inspector	Struck by drifting concrete bucket	270
12-17-62	Survey Aid	Level rod contacted energized conductor	6,000
12-18-62	Asst. Project Manager	Airplane crash	6,000

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PUBLIC DROWNINGS

January 1 - December 31, 1962

1. Facilities Controlled and Operated by Bureau of Reclamation

Canals	20
Reservoirs	5
Total	<u>25</u>

2. Facilities Operated by Other Agencies

Irrigation and Water Districts	23
State or County Agencies	35
Federal Agency	1
Total	<u>59</u>

3. Summary of Total Drownings During Period

A. By Operating Agency

Bureau of Reclamation	25
Irrigation and Water Districts	23
State or County Agencies	35
Federal Agency	1
Total Drownings	<u>84</u>

B. By Type of Facility

Canals	38
Reservoirs	46
Total Drownings	<u>84</u>

C. By Nature of Drownings

Swimming	35
Boating	7
Fishing	6
Fell into Canal	9
Other	27
Total	<u>84</u>

BUREAU MOTOR VEHICLE ACCIDENTS--1962

<u>Region</u>	<u>No. of accidents</u>	<u>Mileage</u>	<u>Accident rate</u>
Alaska District	1	58,280	17.2
Denver Office	2	125,319	16.0
Region 1	9	5,412,265	1.7
Region 2	33	7,626,206	4.3
Region 3	11	2,446,111	4.5
Region 4	17	5,706,309	3.0
Region 5	8	4,331,987	1.8
Region 6	20	5,677,751	3.5
Region 7	24	5,549,626	4.3
Bureau Total	125	36,933,854	3.4
1961 Bureau Total	151	32,567,459	4.6

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POWER AUGER MADE SAFE (Suggestion R1-61-30)

The shutoff switch on a power auger used by Region 1 was located on the forward end of the engine. The two men who operate this equipment are usually at the rear and left rear of the machine in the immediate vicinity of the auger flights. The engine, drive mechanism, and auger flights were located between the shutoff switch and anyone working in the vicinity of the auger flights. If anyone was accidentally caught in the auger flights or drive mechanism, he would be unable to shut off the machine and the other person could be delayed in shutting off the engine. Mr. Frank J. Smith of the Snake River Development Office suggested that a shutoff switch be wired through the main switch and installed at the left rear of the auger machine, adjacent to the auger mast. At that location the shutoff switch would be instantly available to either of the two men in the event of any emergency. The suggestion was adopted and the switch has been installed.

It is believed that other projects may be interested in this safety suggestion and may want to adopt it. If additional information is desired, write to Snake River Development Office, Bureau of Reclamation, 214 Broadway, Boise, Idaho; or to Chief Engineer, Bureau of Reclamation, Denver Federal Center, Denver 25, Colorado, Attention: D-410.

--Operation and Maintenance Equipment and Procedures Release
No. 42.

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ACCIDENT REVIEW

TRANSFORMER ENCLOSURE

Employer: Government

Activity: Surveying existing transformer station.

Accident Situation and Occurrence: A five-man survey party was engaged in obtaining data on the physical features of an existing power-line. They were working near a small enclosed single transformer station. A survey aid had gone inside the fence enclosing the transformer with a level rod for the purpose of obtaining the elevation of the transformer foundation slab. The level rod was of wood construction and faced with graduated brass strips. Metal scuff caps are mounted at each end. When unextended, the rod assembly is 7 feet 4 inches long and 2 inches square. With the rod at this height, the survey aid had made two attempts to get into position so that the level-man could see the rod he was holding. The victim was electrocuted when he moved the level rod against the energized 34.5-kilovolt conductor leading to the transformer.

Cause Determination: Use of level rod in proximity of energized power circuit. Personnel should not be permitted to work near energized circuits with conductive surveying equipment. Where necessary to obtain such data, the power should be disconnected or the information obtained by other means or from other sources. Under no circumstances should an employee enter an enclosed electrical facility unless accompanied by an electrical engineer, a qualified electrician, or an electrical foreman representing the owner of the facility. (Refer Power System Safety Handbook.)

BLASTING

Employer: Contractor

Activity: Blasting operations.

Accident Situation and Occurrence: Employee had taken cover behind a front end loader about 600 feet from blasting point. A shot blew out and threw rocks into the air. A rock came down and struck the employee on the left hip. Lost time was estimated at 28 days.

Cause Determination: The employee had failed to take adequate cover. Supervision should make certain that all personnel are in the clear or protected by adequate barriers prior to setting off blasts.

CUTTING CABLE

Employer: Contractor

Activity: Cutting electrical cable.

Accident Situation and Occurrence: Foreman was cutting electrical cable with cutter, using left and right hand on one handle and the

other handle under his armpit. Injured nerve in his armpit and the time lost was 4 days.

Cause Determination: Improper use of cutting tool. Employee should have obtained help or used a hacksaw to cut the electrical cable.

WELDING

Employer: Contractor

Activity: Field welding pipe.

Accident Situation and Occurrence: The employee was engaged in welding a piece of pipe. Upon completion of the weld, he raised his hood, when a piece of hot slag popped off the weld and landed in his eye. Lost time was 2 days. This accident points up the need for wearing safety goggles underneath the welding hood.

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CLOSED CHEST METHOD OF CARDIAC MASSAGE

Possible dangers in the indiscriminate use of the "closed chest method of cardiac massage" have prompted the Industrial Medical Association, the American Heart Association, and the American National Red Cross to issue a warning that this life-saving technique should be applied only by physicians, nurses, and specially qualified and trained emergency rescue personnel. Injuries to patients from the use of the method by untrained hands have included damage to liver and heart, internal bleeding, multiple rib fractures, and puncture of the lungs.

--Safety Maintenance--December 1962

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PORTABLE EXTINGUISHERS

A major revision of the NFPA Standard No. 10--Portable Fire Extinguishers--has been published by the National Fire Protection Association. The new edition contains the description of a new class of fires. Fires occurring in combustible metals, such as potassium, sodium, titanium, zirconium, etc., are now listed as "Class D" fires. Also included is a recommended system of marking extinguishers and extinguisher locations with color symbols. Copies of the 1962 revised edition of the standard (\$1.00) are available from National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT

(Government - Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH December 31, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	232	35,264	475,008						0.0	0.0		0	0	0
Denver Office and Laboratories	1,420	215,840	2,853,208	2			49		0.7	0.7		17	2,182	
Alaska District	32	4,546	62,838	1			7		15.9	57.9		111	782	
REGION 1														
Boise Regional Office	166	20,526	296,380						0.0	8.0		0	52	
Central Snake Projects	47	5,720	90,397	1			1		11.1	35.2		11	352	
Chief Joseph Dam Project	37	6,132	70,223						0.0	0.0		0	0	
Coeur d'Alene Project	14	2,242	14,819						0.0	-		0	-	
Columbia Basin Project	839	140,922	1,730,560	14			192		7.9	11.6		108	77	
Crooked River Project			3,130						0.0	0.0		0	0	
Hungry Horse Project	51	8,839	111,088	2			61		18.0	0.0		549	0	
Lower Columbia Development	40	5,134	71,562						0.0	-		0	-	
Minidoka Project	154	25,113	279,492	3			11		10.7	9.9		39	86	
Rogue Project	6	960	41,455						0.0	0.0		0	0	
Snake River Development	43	6,622	89,241	1			600		11.2	-		6,701	-	
The Dalles Project	30	5,040	61,850						0.0	46.7		0	233	
Upper Columbia Development	46	5,885	69,894						0.0	-		0	-	
Vale Project	25	4,271	38,103						0.0	0.0		0	0	
Yakima Project	29	3,967	53,286	1			3		18.8	13.8		56	871	
Totals and Averages	1,527	241,413	3,071,730	22			868		7.2	10.4		283	92	
REGION 2														
Sacramento Regional Office	619	94,088	1,238,256	8			78		6.5	8.1		63	392	
Folsom Field Division	62	9,560	138,050						0.0	0.0		0	0	
Fresno Field Division	156	23,712	306,752	5			64		16.3	16.2		209	1,673	
Shasta Field Division	114	17,328	236,217	1			96		4.2	20.2		406	146	
Tracy Field Division	182	28,644	373,328	3			87		8.0	5.2		233	487	
Distribution System Projects	23	3,525	53,447						0.0	0.0		0	0	
El Dorado Projects	34	5,168	89,240						0.0	10.0		0	30	
Klamath Project	35	5,381	83,204						0.0	20.7		0	136	
Lahontan Basin Project	29	4,408	103,472						0.0	8.5		0	102	
Red Bluff Office	112	17,024	180,890	1			13		5.5	0.0		72	0	
San Luis Unit	266	40,432	422,286						0.0	6.3		0	13	
Trinity River Division	245	38,240	558,484	2	5	1	34	6,046	9.0	6.6	829	10,826	89	
Willows Field Office	8	1,060	1,380						0.0	-		0	-	
Totals and Averages	1,888	288,570	3,785,006	2	23	1	34	6,384	6.9	6.1	8.9	118	1,687	774
REGION 3														
Boulder Regional Office	126	20,160	259,960						0.0	0.0		0	0	
Boulder Canyon Project	155	27,452	328,523	3			89		9.1	21.2		271	346	
Colorado River PW and IS	81	12,065	149,763	1			55		20.0	31.3		367	672	
Parker-Davis Project	292	47,908	579,268	6			73		10.4	12.2		126	201	
Phoenix Development	97	14,744	125,100	1			1		8.0	-		8	-	
Southern California Development	8	1,408	4,440						0.0	-		0	-	
Yuma Projects	155	21,940	274,745	2	5	2	12,000	12,006	18.2	28.1	346,946	43,699	362	
Totals and Averages	914	145,677	1,722,104	2	18	2	12,000	12,224	13.7	10.5	17.1	82,374	7,098	251
REGION 4														
Salt Lake Regional Office	313	49,339	695,027	2			110		2.9	0.0		158	0	
Emerald County Project	32	5,246	42,121						0.0	-		0	-	
Central Utah Projects	138	21,742	209,242	3			233		9.7	6.3		722	35	
Curecanti Unit	83	14,797	156,022	2	1		6,018		12.8	15.4		38,571	15	
Flaming Gorge Unit	151	21,671	297,201				270		3.4	0.0		908	0	
Glen Canyon Unit	346	59,020	705,966	1	4		794	16.9	5.7	7.7	203	1,125	88	
Navajo Unit	41	7,094	121,053	1			10		8.3	0.0		83	0	
Transmission System Office	78	7,800	163,160	1			3		6.1	0.0		18	0	
Durango Projects	85	14,322	190,454	2			12		10.5	6.1		63	31	
Logan Development	15	2,366	28,793						0.0	0.0		0	0	
Sandakadee Project	73	11,576	165,251	1			45		6.1	0.0		272	0	
Upper Green River Project	24	5,560	57,036						0.0	0.0		0	0	
Reber Basin Project	199	30,278	327,836						0.0	6.2		0	193	
Grand Junction Office	101	12,864	258,786				79		7.7	3.1		305	16	
Totals and Averages	1,679	263,975	3,578,691	1	19	1	12	7,574	3.8	5.3	3.8	45	2,116	44
REGION 5														
Amarillo Regional Office	108	16,972	215,939						0.0	4.5		0	18	
Albuquerque Development	31	4,934	45,902						0.0	-		0	-	
Austin Development	78	10,923	134,644						0.0	7.4		0	253	
Canadian River Project	125	20,999	239,071						0.0	0.0		0	0	
Lower Rio Grande Rehab.	55	9,344	124,636						0.0	7.2		0	29	
Middle Rio Grande Project	246	39,170	507,681				36		7.9	15.9		71	234	
Norman Project	76	15,646	111,324	1	4		17	63.9	9.0	-	1,087	153	-	
Oklahoma City Development	29	3,680	52,071						0.0	-		0	-	
Rio Grande Project	267	40,516	590,321	1	6		3	30	10.2	23.8		51	346	
San Angelo Project	64	11,157	177,469	2			99		11.3	4.4		558	4	
Washita Basin Project	8	1,160	54,244						0.0	0.0		0	0	
Wichita Project	53	9,043	97,802				1		10.2	0.0		10	0	
Totals and Averages	1,140	183,544	2,351,104	2	14		20	182	10.9	5.9	12.5	109	78	177
REGION 6														
Billings Regional Office	232	35,294	441,478				1		2.3	5.1		2	117	
Canyon Ferry Project	19	2,463	36,232						0.0	0.0		0	0	
East Bench Project	69	7,561	138,455						0.0	8.0		0	0	
Fort Peck Project	35	5,872	64,363				17		15.5	29.6		264	444	
Missouri-Oahe Projects	268	44,040	534,152	4			432		7.5	7.2		809	38	
Missouri-Souris Projects	135	24,345	282,390	1			6		3.5	3.3		21	21	
Power System Operations	40	6,400	79,040						0.0	0.0		0	0	
Riverton Project	33	3,906	56,627	1			135		17.6	0.0		2,384	0	
Upper Missouri Projects	48	10,544	192,253	4			35		20.8	12.1		182	1,255	
Yellowtail Project	107	21,325	220,397	2			24		9.1	0.0		109	0	
Totals and Averages	1,026	162,223	2,045,887	14			650		6.8	5.5		318	169	
REGION 7														
Denver Regional Office	167	24,048	325,336						0.0	0.0		0	0	
Denver Development	31	4,800	60,816						0.0	0.0		0	0	
Fryingpan-Arkansas Project	45	6,253	12,652						0.0	-		0	-	
Kansas River Projects	338	51,376	684,340	1			8		1.5	4.5		12	167	
Nebraska-Lower Platte Projects	310	50,600	677,800						0.0	12.3		0	65	
North Platte River Projects	292	47,201	591,602						0.0	3.2		0	24	
South Platte River Projects	172	28,896	323,122	4			49		11.3	8.8		139	79	
Totals and Averages	1,354	213,174	2,665,668	5			57		1.9	5.9		21	74	
CONSOLIDATED TOTALS	11,216**	1,754,256	22,611,294	7	118	4	12,066	27,996	4.0	5.2	7.6	6,878	1,238	427
TOTALS LAST YEAR (1961)	10,472		21,258,640	162		1	9,076		7.6			427		

* FATALITIES INCLUDED IN TOTAL DISABLING

**1962 average--11,190

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR

(Government-Contractor)

PERIOD FROM JANUARY 1, 1962... THROUGH December 31, 1962...

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE OSABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE OAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL **	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	25	3,064	87,945	1	2		2	6	326.4	22.7	0.0	653	68	0
Columbia Basin Project	119	14,212	222,114		1			3		4.5	5.2		13	37
Coeur d'Alene	32	2,723	14,430							0.0	-		0	-
Crooked River Project			240							0.0	0.0		0	-
Hungry Horse Project			2,447							0.0	0.0		0	0
Minidoka Project			8,779							0.0	0.0		0	0
Rogue Project	15	3,175	36,522							0.0	39.0		0	80
The Dalles Project	18	2,625	3,137							-	-		-	-
Vale Project	114	19,793	139,309	4	1		6,037			28.7	-	43,335	-	-
Yakima Project	15	2,254	15,821							0.0	0.0		0	0
Snake River Development	1	236	236							0.0	-		0	-
Totals and Averages	339	49,082	520,980	1	7	1	2	6,046	20.4	13.2	11.7	41	11,386	214
REGION 2														
Sacramento Regional Office			1,035							0.0	0.0		0	0
Distribution System Projects	84	14,683	118,890	1	6		14	135	68.1	50.5	60.6	953	1,136	1,388
El Dorado Project	94	14,406	255,792		12			122		46.9	24.3		477	297
Folsom Field Division			1,314							0.0	0.0		0	0
Fresno Field Division	23	1,887	6,249							0.0	-		0	-
Klamath Project	7	769	41,028							0.0	0.0		0	0
Lahontan Basin Project			50,539							0.0	71.7		0	901
Red Bluff Office	229	35,272	283,676		4		149			14.1	-	525	-	-
San Luis Unit	78	6,651	21,855							0.0	-		0	-
Shasta Field Division			380							0.0	-		0	-
Tracy Field Division	22	2,176	6,544							0.0	702.7		0	7,027
Trinity River Division	589	93,916	1,613,804	6	70	1	111	7,554	63.9	43.4	40.0	1,182	4,681	3,391
Totals and Averages	1,126	169,760	2,401,106	7	92	1	125	7,960	41.2	38.3	41.9	736	3,315	3,009
REGION 3														
Boulder Canyon Project			1,626							0.0	29.2		0	1,605
Colorado River FW and LS			72,063							0.0	0.0		0	0
Parker-Davis Project	91	9,613	29,677	2	4		3	60	208.0	134.8	0.0	312	2,022	0
Phoenix Development			2,248							0.0	-		0	-
Yuma Projects	7	547	70,754	1	1		26			14.1	19.5		367	966
Totals and Averages	98	10,160	176,368	2	5		3	86	196.9	28.3	21.4	295	488	1,111
REGION 4														
Central Utah Projects	55	7,467	87,789	1	5		2	123	133.9	57.0	33.3	268	1,401	462
Curtis Unit	302	58,936	455,262	1	7		3	261	16.9	15.4	159.5	51	573	2,233
Flaming Gorge Unit	412	55,472	1,658,362		12	1		12,432		7.2	7.3	7,509	4,602	
Glen Canyon Unit	1,916	329,716	3,256,333	4	68	1	325	8,911	11.8	20.3	17.5	957	2,655	5,995
Navajo Unit	95	21,362	615,212		9			240		14.6	15.4		390	206
Emery County Project			1,179							0.0	-		0	-
Florida Division	100	15,361	391,946		10			214		25.5	35.8		546	1,410
Grand Junction Projects	21	2,902	265,764		5			81		18.8	25.4		305	211
Seedskadee Project	105	12,632	489,007		3			72		6.1	0.0		147	0
Upper Green River Project			1,328							0.0	0.0		0	0
Weber Basin Projects	325	47,070	495,998		14	1		6,210		28.2	22.7	12,520	23,184	
Totals and Averages	3,331	560,968	7,820,280	6	133	2	330	28,564	10.7	17.0	16.8	588	3,623	4,686
REGION 5														
Amarillo Regional Office	8	1,213	2,603							0.0	96.2		0	192
Albuquerque Development			1,561							0.0	-		0	-
Canadian River Project	284	58,959	442,712	1	9		28	178	17.0	20.3	0.0	475	402	0
Lower Rio Grande Behav.	215	20,284	282,674	1	8		3	103	49.1	28.3	19.0	148	264	28,512
Middle Rio Grande Project			21,431							0.0	10.9		0	241
Norman Project	54	7,976	31,182		2			21		60.3	-		633	-
Rio Grande Project	26	4,443	8,094							0.0	-		0	-
San Angelo Project	283	59,061	1,021,795		24	3		18,455		23.5	47.5	18,061	23,539	
Washita Basin Project			105,230		6			35		37.0	39.0		333	790
Wichita Project	121	14,432	169,181							0.0	-		0	-
Totals and Averages	991	166,368	2,084,463	2	49	3	31	18,792	12.0	23.5	41.0	186	9,015	18,913
REGION 6														
Billings Regional Office			1,538							0.0	-		0	-
East Bench Project	260	29,854	330,272	2	16		123	418	67.0	48.4	26.0	4,120	1,264	402
Missouri-Cahoe Projects	229	30,271	417,873	3	11	1	21	6,047	99.1	26.3	49.7	694	14,471	20,376
Missouri-Souris Projects	110	32,004	172,173	1	6		4	206	31.2	34.8	19.2	125	1,196	346
Riverton Project	36	4,587	30,184		1			13		33.1	0.0		431	0
Upper Missouri Projects	11	1,797	13,947							0.0	0.0		0	0
Yellowtail Project	446	68,086	913,454	1	9		16	279	14.7	9.9	0.0	235	305	0
Totals and Averages	1,092	166,593	1,879,741	7	43	1	164	6,963	42.0	22.9	21.2	984	3,704	5,349
REGION 7														
Kansas River Projects	289	49,456	608,440		6			2,184		9.9	9.9		3,589	10,177
Nebraska-Lower Platte Projects	494	58,090	976,572		17			6,192		17.4	7.2		6,341	458
North Platte River Projects	16	1,592	20,034		1			12		49.9	64.2		599	1,108
South Platte River Projects	5	200	11,292							0.0	70.3		0	281
Totals and Averages	804	109,338	1,616,338		24			8,388		14.8	11.3		5,189	4,273
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19 61)	7,438	1,232,275	16,509,276	25	353	9	655	76,799	20.3	21.4	24.1	532	4,652	5,926
			15,215,753		367	12		90,162		24.1			5,926	

* FATALITIES INCLUDED IN TOTAL DISABLING ** 1962 average—8,141



